

# LYCOMING COLLEGE

*Founded 1812*

*Williamsport, Pennsylvania*

**CATALOG**

**1989 - 1990**

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The general regulations and policies stated in this catalog are in effect for the 1989-90 academic year. Students beginning their first term at Lycoming College in the fall of 1989 or the spring of 1990 are thereafter governed by the policies stated in this catalog. Requirements governing a student's major are those in effect at the time a major is formally declared and officially accepted by the major department.

If changes are made in subsequent editions of the catalog to either general requirements or major requirements, students may be permitted the option of following their original program or a subsequent catalog version, but the College always reserves the right to determine which requirements apply.

If a student interrupts his or her education without a leave of absence, the catalog requirements in effect at the time of readmission will apply. Students on an approved leave of absence retain the same requirements they had when they entered, if their leaves do not extend beyond one year.

Lycoming College reserves the right to amend or change the policies and procedures stated in this catalog without prior notice to those who may be affected by them. The provision of this publication are not to be regarded as an irrevocable contract between the applicant and/or the student and Lycoming College.

## **Communicating with Lycoming College**

Please address specific inquiries as follows:

Director of Admissions:

Admissions; requests for publications

Treasurer:

Payment of bills; expenses

Director of Financial Aid:

Scholarships and loan fund; financial assistance

Dean of College:

Academic programs; faculty; faculty activities

Dean of Student Services:

Some activities; residence halls; religious life; health services;  
academic support services

Registrar:

Student records; transcript requests; academic policies

Career Development Center:

Career counseling; employment opportunities

Executive Director for College Advancement:

Institutional relations; annual fund; gift programs

Director of Alumni and Parent Relations:

Alumni information; parent support

Director of Public and Media Relations:

Public information; publications; sports information; media relations

All correspondence should be addressed to:

Lycoming College  
Williamsport, Pennsylvania 17701

The College telephone number is (717) 321-4000

## ***Visitors***

Lycoming welcomes visitors to the campus. If you would like a guided tour, call the Office of Admissions (717) 321-4126 before your visit to arrange a mutually convenient time.

Toll Free Number 1-800-345-3920

Lycoming College welcomes applications from prospective students regardless of age, sex, race, religion, handicap, finances, national or ethnic origin, or color. Lycoming does not discriminate on the basis of age, sex, race, religion, handicap, finances, national or ethnic origin, or color in the administration of any of its policies and programs.

## Welcome to Lycoming

Lycoming is an independent, coeducational college dedicated to providing the type of learning that can be used for a lifetime — the liberal arts and sciences.

Lycoming's academic relevance derives from its enduring commitment to the value of this type of education, as offered by a superior teaching faculty. The College's principal aim is to help students develop a central core of integrated values, skill, information, and strategies while they learn to communicate, reason, make decisions, understand, and use their imagination. This type of education can lead to productive and fulfilling lives in many fields while allowing lifelong growth and development.

Lycoming awards bachelor of arts degrees in 31 major fields, a bachelor of fine arts degree in sculpture, and a bachelor of science degree in nursing. The curriculum is challenging. Because it is built upon the two principles of the

liberal arts known as distribution and concentration, it allows students to study in breadth and depth.

Students who have special interests not met entirely by a major field can design their own majors. Or, if they are interested in teaching, medicine, law, dentistry, or the ministry, they can take courses needed to enter their advanced study.

Students also can study engineering, forestry or environmental studies, podiatric medicine, optometry, medical technology, and sculpture through cooperative programs operated by Lycoming with other colleges and universities. Or, they can study abroad or in Philadelphia, Pa., Washington, D.C., or New York City through other off-campus study programs.

Most students complete their program of study in four years, usually by taking four courses each fall and spring semester. But students also can take one course

during Lycoming's May term, or two courses during the summer term.

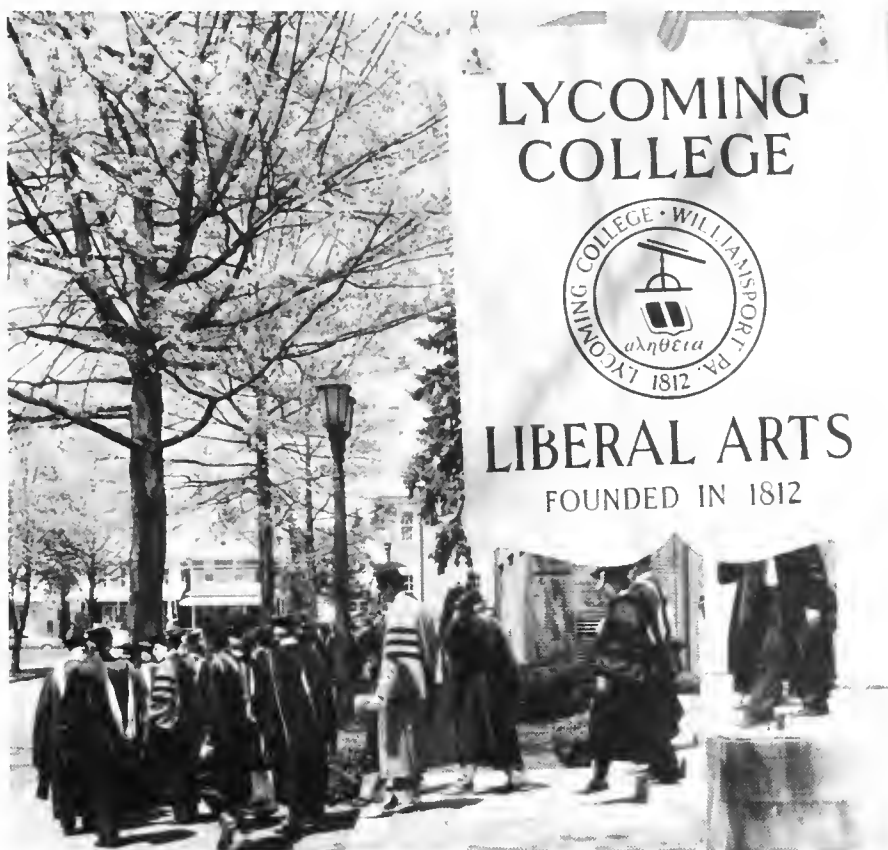
Recognizing students' concerns about careers, Lycoming offers extensive counseling through the Career Development Center and advisory committees for prelaw, prehealth professions, and pre-medical students. The College also operates a wide-ranging internship program that allows students to earn academic credit while working at area businesses, government offices, and nonprofit organizations.

Lycoming's ratio of students to faculty is 15 to one, which means that most classes are small and there is abundant opportunity for individual attention. All faculty members teach. More than 70 percent of Lycoming's faculty hold the highest degrees in their fields from the nation's outstanding colleges and universities. And, faculty members take their advising seriously. They care about students, and encourage and guide them so they receive the education they want.

Nineteen buildings sit on Lycoming's main campus. Most of them have been built since 1950. The modern buildings include the eight residence halls; the library; the Academic Center, which houses the Arena Theatre, planetarium, computer center, and art gallery; the student union; the physical education/recreation center, including a six-lane, 25-yard pool; a completely renovated fine arts center with excellent facilities to accommodate sculpture, painting, drawing, printmaking, ceramics and photography; and a music building, which houses individual music practice rooms and an electronic-music studio.

Scheduled to open in the spring of 1990, the \$8.3 million science facility will be one of the finest undergraduate science facilities in the East. The building will be three levels, totalling more than 63,000 square feet. It will contain new biology and chemistry laboratories, lecture and seminar rooms, a small science library and a greenhouse, as well as classrooms and faculty offices.

Lycoming houses approximately 900 of its 1,250 students in the residence halls, which include double and single rooms. Most students find the campus



friendly and comfortable, with all of the buildings easy to reach from anywhere on campus. Students come from a variety of economic classes, religious beliefs, and geographic areas, although most students call Pennsylvania, New Jersey, or New York their home. They work and play together in an atmosphere of respect and tolerance.

The College offers a variety of extra-curricular activities. Recent Artist Series events have included the Broadway musicals *Big River* and *The Mystery of Edwin Drood*, *Pilobolus Dance Theatre*, *The Northeastern Philharmonic*, and *The New York City Opera National Company*. Admission to all Artist Series events is free for Lycoming students. Student government groups help to plan campus activities and social events. Numerous clubs, honor societies, social fraternities and sororities, the student newspaper, yearbook and literary magazine, and the band and widely acclaimed choir meet other student interests. Students who like to perform or compete can act on the Arena Theatre stage or play on inter-collegiate or intramural sports teams. Intercollegiate teams for men include football, soccer, basketball, wrestling,

tennis, golf, swimming, track and field, and cross country. Intercollegiate teams for women include basketball, tennis, field hockey, swimming, track and field, cross country, and softball.

In addition, students who like hiking, backpacking, skiing, camping, fishing, hunting, kayaking, spelunking, and other outdoor sports will find Lycoming's location ideal.

Lycoming is situated on a slight prominence near downtown Williamsport, a small city nestled along the West Branch of the Susquehanna River in northcentral Pennsylvania's rolling hills and valleys. Yet, the College is within a four-hour drive of metropolitan centers such as New York City, Philadelphia, Pittsburgh, Washington, D.C., Baltimore, Syracuse, Rochester, and the New Jersey shore points. The Williamsport-metro area is home to about 75,000 persons.

Lycoming enjoys a relationship with The United Methodist Church. It supports the Methodist tradition of providing an education for persons of all faiths.

Fully accredited, Lycoming is a member of the Middle States Association of Colleges and Schools, and the University Senate of The United Methodist Church.

It is a member of the Association of American Colleges, the Pennsylvania Association of Colleges and Universities, the Commission for Independent Colleges and Universities, the National Commission on Accrediting, and the National Association of Schools and Colleges of The United Methodist Church.

## HISTORY

Lycoming College was founded in 1812 as the Williamsport Academy, an elementary and secondary school. Thirty-six years later, the academy became the Williamsport Dickinson Seminary under the patronage of The Methodist Episcopal Church. The seminary operated as a private boarding school until 1929, when a college curriculum was added and it became the Williamsport Dickinson Seminary and Junior College. In 1947, the junior college became a four-year degree-granting college of liberal arts and sciences. It adopted the name Lycoming, derived from the Indian word "Iacomic," meaning "Great Stream." The word Lycoming has been common to north-central Pennsylvania since colonial days.



# Academic Program

## THE BACHELOR OF ARTS DEGREE

Lycoming is committed to the principle that a liberal arts education is the best hope for an enlightened citizenry. Consequently, the bachelor of arts degree is conferred upon the student who has completed an educational program incorporating the two principles of the liberal arts known as distribution and concentration. The objective of the distribution principle is to insure that the student achieves breadth in learning through the study of the major dimensions of human inquiry: the humanities, the social sciences, and the natural sciences. The objective of the concentration principle is to provide depth of learning through completion of a program of study in a given discipline or subject area known as the major.

## REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE

Every degree candidate is expected to complete the following requirements in order to qualify for graduation:

- complete the distribution program.
- complete a major consisting of at least eight courses while achieving a minimum grade point average of 2.0 in those courses.
- earn one year of credit in physical education. Athletic training courses may count towards this requirement. All students must demonstrate competence in swimming. (Medical exemptions may be granted by the College physician after an examination and review of the student's medical history and family physician's report.)
- pass a minimum of 32 units (128 semester hours) with a minimum cumulative average of 2.0. Additional credits beyond 128 semester hours may be completed provided the minimum 2.0 cumulative average is maintained.
- complete *in residence* the final eight courses offered for the degree at Lycoming.

- satisfy all financial obligations incurred at the College.
- complete the above requirements within seven years of continuous enrollment following the date of matriculation.

All exemptions or waivers of specific requirements are made by the Committee on Academic Standards.

## THE BACHELOR OF FINE ARTS DEGREE

The bachelor of fine arts degree is specifically designed to train professional artists. The BFA in sculpture is a synthesis of three diverse forms of education: a studio art program that emphasizes the skills and concepts of the visual language; an apprenticeship that takes technical expertise as the departure point, and the scholastic method employed in both art history and the general-education component.

## REQUIREMENTS FOR THE BACHELOR OF FINE ARTS DEGREE

Every BFA degree candidate is expected to complete the following requirements in order to qualify for graduation:

- complete the 12-course Art Department course of study, while achieving a minimum grade point average of 2.0 in these courses.
- complete the distribution program.
- pass a minimum of 32 units (128 semester hours) with a minimum cumulative average of 2.0 in these courses.
- complete one of the field specialization apprenticeships at the Johnson Atelier Technical Institute of Sculpture.
- earn one year of credit in physical education. Athletic training courses may count towards this requirement. All students must demonstrate competence in swimming. (Medical exemptions may be granted by the College physician after an examination and

review of the student's medical history and family physician's report.)

- complete *in residence* the final eight courses offered for the degree at Lycoming.
- satisfy all financial obligations incurred at the College.
- have a public exhibition of original art work and make an oral defense.

## THE BACHELOR OF SCIENCE IN NURSING DEGREE

The program of study leading to the bachelor of science in nursing degree is designed to prepare men and women as beginning practitioners of professional nursing, qualified for first-level positions in a variety of health settings and for graduate study in nursing. Upon satisfactory completion of the program, a graduate is eligible to write the State Board of Nursing examination for licensure as a registered nurse. The goal of the program is to develop a liberally educated and self-directed individual who is prepared to contribute to the welfare of the nation through the practice of professional nursing which supports the promotion and restoration of health of individuals and families in a variety of settings.

## REQUIREMENTS FOR THE BACHELOR OF SCIENCE IN NURSING DEGREE

Every BSN degree candidate is expected to complete the following requirements in order to qualify for graduation:

- complete the 13-course major with a minimum cumulative average of 2.0, including the required May term following the junior year.
- complete the distribution requirements for the BSN degree.
- complete a minimum of 32 units (128 semester hours) with a minimum cumulative average of 2.0.
- earn one year of credit in physical education. Athletic training courses may count towards this requirement. All students must

demonstrate competence in swimming. (Medical exemptions may be granted by the College physician after an examination and review of the student's medical history and family physician's report.)

- complete *in residence* the final eight courses offered for the degree at Lycoming.
- satisfy all financial obligations incurred at the College.
- complete the degree requirements within a five-year period after admission to the nursing major. Candidates who are unable to meet this requirement must petition for an extension.

## WRITING ACROSS THE CURRICULUM PROGRAM

### I. Purpose

The Lycoming College Writing Across the Curriculum Program has been developed in response to the conviction that writing skill promotes intellectual growth and is a hallmark of the educated person. The program has therefore been designed to achieve two major, interrelated objectives:

- (1) to enhance student learning in general and subject mastery in particular, and
- (2) to develop students' abilities to communicate clearly. In this program students are given opportunities to write in a variety of contexts and in a substantial number of courses, in which they receive faculty guidance and reinforcement.

### II. Program Requirements

In order to graduate from Lycoming all students must complete the following writing requirements:

- A. English 005 (Workshop in Developmental Writing) or exemption from the course.
- B. English 106 (Composition) and one other English course.
- C. A writing component in all distribution courses completed at Lycoming.
- D. Two courses designated as writing-intensive, or "W" courses.

- (1) Successful completion of English 106 is a prerequisite for enrollment in writing-intensive courses.
- (2) All courses designated "W" are numbered 200 or above.
- (3) Each student must complete one "W" course from among those offered by the major department, or, with departmental approval, from a related department. The other "W" course completed must be from a department other than the major department. In the case of students with multiple majors, one "W" course must be completed from one of those majors. The second course may be taken in one of the student's other majors.
- (4) Students should take one "W" course during the sophomore year and one during the junior year — though other sequences are possible and may in certain circumstances be advisable.
- (5) A writing intensive course may not duplicate a course taken to satisfy II. B.

## THE DISTRIBUTION PROGRAM

A course can be used to satisfy only one distribution requirement. Courses for which a grade of "P" is recorded may not be used toward the fulfillment of the distribution requirements. (Refer to page 10 for an explanation of the grading system.) A course in any of the following distribution requirements refers to a full-unit (four semester hours) course taken at Lycoming, any appropriate combination of fractional unit courses taken at Lycoming which accumulate to four semester hours, or any single course of three or more semester hours transferred from another institution. For the BSN degree, see special modified distribution requirements on page 7.

**English** — Students are required to

demonstrate competence in basic writing skills and to pass English 106 and one other unit of English. Competence in basic writing skills may be demonstrated either by passing the Achievement Examination in English Composition or by earning a Pass in English 005. A student must demonstrate this competence before being permitted to enroll in English 106. Unless impossible because of failure to complete English 005, English 106 *must* be taken during the freshman year; English 106 or consent of instructor is required before enrolling in any other English course. Students may choose any course from the department's offerings to satisfy the requirement for another unit in English.

### Foreign Language or Mathematics

— Students are required to meet a minimum basic requirement in either a foreign language or the mathematical sciences.

**Foreign Language.** Students may choose from among French, German, or Spanish and are required to pass two courses on the intermediate or higher course level. Placement at the appropriate course level will be determined by the faculty of the Department of Foreign Languages and Literatures. Students who have completed two or more years of a given language in high school are not admitted for credit to the elementary course in the same foreign language except by written permission of the chairman of the department. French 228 and Spanish 331 will meet part of this requirement only if the section taught in the language is completed.

**Mathematics.** Students are required to demonstrate competence in basic algebra and to pass three units of Mathematical science other than Mathematics 005. Competence in basic algebra may be demonstrated either by passing the basic algebra section of the Mathematics Placement Examination or by passing Mathematics 005. By demonstrating higher competence on the Mathematics Placement Examination, students may reduce the requirement to two units of



mathematical science. *No more than one unit may be taken in computer science.*

**Religion or Philosophy** — Students are required to pass two courses in either religion or philosophy. Any two religion courses may be used to fulfill the philosophy/religion distribution requirement, with this exception: only *one* course from the combination Religion 120-121 may be selected for distribution.

**Fine Arts** — Students are required to pass two courses as indicated in art, literature, music, or theatre.

*Art.* Any two courses.

*Literature.* Any two literature courses selected from the offerings of the Departments of English and Foreign Languages and Literatures (French, German, or Spanish).

*Music.* Any combination of eight (8) credits, including applied music, ensemble, and music department courses.

*Theatre.* The fine arts distribution requirement may be satisfied by selecting any two of the following recommended courses: Theatre 100, 110, 140, 148, 332, 333, or other courses with the consent of the instructor.

**Natural Science** — Students are required to pass any two courses as indicated in one of the following disciplines: astronomy and physics, except Astr 114 and 115; biology, or chemistry.

**History and Social Science** — Students are required to pass two courses as indicated in economics, history, political science, psychology, or sociology/anthropology.

*Economics.* Any two courses.

*History.* Any two courses, except History 222.

*Political Science.* Any two courses.

*Psychology.* Psychology 110 and one other course.

*Sociology/Anthropology.* Sociology/Anthropology 110 plus another course.

## THE DISTRIBUTION PROGRAM FOR THE BSN DEGREE

**English** — Same as B.A. degree.

**Mathematical Sciences** — competence in basic algebra as demonstrated by completion of, or exemption from Math 005; Mathematics 103; and Computer Science 108, 125, or Mathematics 214.

**Religion and Philosophy** — Religion 120 and Philosophy 219.

**Fine Arts/Foreign Language** — two courses from one department as follows:

*Art* — any two (2) courses

*Literature* — any two literature courses selected from the departments of English and Foreign Languages and Literatures

*Music* — any combination of eight (8) credits, including applied music, ensemble, and music department courses

*Theatre* — any two (2) courses from among Theatre 100, 110, 140, 148, 332, 333, or other courses with the consent of the instructor

*Language* — any two (2) courses at the intermediate or higher level. No student who has had two or more years of a given foreign language in high school shall be admitted to the elementary courses in that same language for credit, except by written permission of the chairman of the department.

**Natural Science** — Chemistry 108, 115

**Social Science** — Psychology 110 and 117; Sociology and anthropology — one from among Soc 110, 114, 220, 222, 224, 227, 228, 229, 331, 334, and 335.

## THE MAJOR

Students are required to complete a series of courses in one departmental or interdisciplinary (established or individual) major. Specific course requirements for each major offered by the College are listed in the curriculum section of this catalog. Students must earn a

2.0 or higher grade-point average in those courses stipulated as comprising the major. (This requirement is not met by averaging the grades for all courses completed in the major department.) Students must declare a major by the beginning of their junior year. Departmental and established interdisciplinary majors are declared in the Office of the Registrar, whereas individual interdisciplinary majors must be approved by the Committee on Curriculum Development. Students may complete more than one major, each of which will be recorded on the transcript. Students may be removed from major status if they are not making satisfactory progress in the major. This action is taken by the Dean of the College upon the recommendation of the department, coordinating committee (for established interdisciplinary majors), or Curriculum Development Committee (for individual interdisciplinary majors). The decision of the Dean of the College may be appealed to the Academic Standards Committee by the student involved or the recommending department or committee.

**Departmental Majors** — Departmental majors are available in the following areas:

Accounting  
Art History  
Art Studio  
Astronomy  
Biology  
Business Administration  
Chemistry  
Computer Science  
Economics  
English  
Foreign Languages, and Literatures  
French, German, Spanish  
History  
Mathematics  
Music  
Nursing  
Philosophy  
Physics  
Political Science  
Psychology  
Religion  
Sociology/Anthropology  
Theatre

### **Established Interdisciplinary Majors**

— The following established interdisciplinary majors include course work in two or more departments:

Accounting-Mathematical Sciences  
American Studies  
Criminal Justice  
International Studies  
Literature  
Mass Communication  
Near East Culture and Archaeology

### **Individual Interdisciplinary Majors**

— Students may design a major that is unique to their needs and objectives and which combines course work in more than one department. This major is developed in consultation with the student's faculty advisor and with a panel of faculty members from each of the sponsoring departments. The application is acted upon by the Curriculum Development Committee. The major normally consists of 10 courses beyond those taken to satisfy the distribution requirements. Students are expected to complete at least six courses at the junior or senior level. Examples of individual interdisciplinary majors are Racial and Cultural Minorities, Illustration in the Print Medium, Environmental Law, Advertising, Art/Business, Human Behavior, and Images of Man.

### **Major in Sculpture Leading to Bachelor of Fine Arts Degree**

— Through a cooperative program with the Johnson Atelier Technical Institute of Sculpture, Mercerville, New Jersey, students may earn a BFA degree in sculpture. The major consists of a core academic program, a course of study in art, elective courses, and an apprenticeship at the Johnson Atelier.

### **THE MINOR**

The College awards two kinds of minors, departmental and interdisciplinary, in recognition of concentrated course work in an area other than the student's major. All minors are subject to the following limitations:

- a minor must include at least two courses which are not counted in the student's major.
- a student may receive at most two minors.
- students with two majors may receive only one minor; students with three majors may not receive a minor.
- students may not receive a minor in their major discipline unless their major discipline is Art and the minor is Art History. (A discipline is any course of study in which a student can major. Tracks within majors are not separate disciplines.)
- a student may not receive a minor unless his average in the courses which count for his minor is a minimum of 2.00.
- courses taken P/F may not be counted toward a minor.

Students must declare their intention to minor by signing a form available in the Registrar's Office, getting required faculty signatures, and returning the completed form to the Records Room.

When students complete a minor, the title will be indicated on their official transcript. Students must meet the requirements for the minor which are in effect at the time they declare a minor or which are in effect subsequent to that time and before they graduate.

**Departmental Minors** — Requirements for a departmental minor vary from department to department. Students interested in pursuing a departmental minor should consult that department for its policy regarding minors.

Departmental minors are available in the following areas:

#### **ACCOUNTING**

Financial Accounting  
Managerial Accounting  
Federal Income Tax

#### **ART**

Art History  
Commercial Design  
Painting  
Photography  
Sculpture

#### **BIOLOGY**

#### **BUSINESS ADMINISTRATION**

Marketing  
Finance

#### **CHEMISTRY**

#### **ECONOMICS**

#### **ENGLISH**

Literature  
Writing

#### **FOREIGN LANGUAGES AND LITERATURES**

French  
German  
Spanish

#### **HISTORY**

American History  
European History  
History

#### **MASS COMMUNICATION**

#### **MATHEMATICAL SCIENCES**

Computer Science  
Mathematics

#### **PHILOSOPHY**

Philosophy  
Philosophy and Law  
Philosophy and Science  
The History of Philosophy

#### **POLITICAL SCIENCE**

Political Science  
Foreign Affairs  
Legal Studies

#### **PSYCHOLOGY**

#### **RELIGION**

#### **SOCIOLOGY/ANTHROPOLOGY**

#### **THEATRE**

Theatre History & Literature  
Performance  
Technical Theatre

**Interdisciplinary Minors** — Interdisciplinary minors include coursework in two or more departments. Students interested in interdisciplinary minors should consult the faculty coordinator of that minor. Interdisciplinary minors are available in the following areas: BIBLICAL LANGUAGES, CRIMINAL JUSTICE, MASS COMMUNICATION, and WOMEN'S STUDIES.

### **ACADEMIC ADVISEMENT**

One advantage of a small college is the direct, personal contact between a stu-

dent and his or her college instructors who care about that student's personal, academic, and professional aspirations. The student can draw upon their years of experience to resolve questions about social adjustment, workload, study skills, tutoring, and more. Perhaps the member of the faculty with the most impact on a student is the academic advisor.

The freshman advisor, whom the student meets at summer orientation, assists with course selection by providing accurate information about requirements and programs and with personal adjustment by helping the student recognize his or her own goals. In addition, the advisor will refer students to other campus resources whenever the need is apparent.

During the student's sophomore year, he or she will choose a major and select an advisor from the major department. The new advisor, while serving as a resource for the student, can best advise that student about course selection and career opportunities.

Advisors at Lycoming endeavor to contribute to our students' development in yet another way. We insist that students assume full responsibility for their decisions and academic progress. By doing so, we help to prepare them for the harder choices and responsibilities of the professional world.

Also, Lycoming provides special advising programs for careers in medicine, law, and religion. Interested students should register with the appropriate advisory committee immediately after deciding to enter one of these professions.

**Preparation for Educational Professions** — Lycoming College believes that the liberal arts provide the best preparation for future teachers, thus all education students complete a liberal arts major in addition to the Lycoming College Teacher Education Certificate requirements. Students can be certified in elementary education or one or more of the following secondary areas: art (K-12), biology, chemistry, English, French, general science (with biology or astronomy/physics tracks), German, mathematics, music (K-12), physics, so-

cial studies, and Spanish. All teacher-education programs are approved by the Pennsylvania Department of Education. Pennsylvania certificates are recognized in most other states either through reciprocal agreements or by transcript evaluation.

**Preparation for Health Professions** — The program of pre-professional education for the health professions (allopathic, dental, osteopathic, podiatric and veterinary medicine, optometry, and pharmacy) is organized around a sound foundation in biology, chemistry, mathematics, and physics and a wide range of subject matter from the humanities, social sciences, and fine arts. At least three years of undergraduate study is recommended before entry into a professional school; the normal procedure is to complete the bachelor of arts degree.

Students interested in one of the health professions or in an allied health career should make their intentions known to the admissions office when applying and to the Health Professions Advisory Committee (HPAC) during their first semester. This committee advises students concerning preparation for and application to health-professions schools. All pre-health professions students are invited to join the student Pre-Health Professions Association. (See also descriptions of the nursing program and of the cooperative programs in podiatric medicine, optometry, and medical technology.)

**Preparation for Legal Professions** — Lycoming offers a strong academic preparation for students interested in law as a profession. Admission to law school is not predicated upon a particular major or area of study; rather, a student is encouraged to design a course of study (traditional or interdisciplinary major) which is of personal interest and significance. While no specific major is recommended, there are certain skills of particular relevance to the pre-law student: clear writing, analytical thinking, and language comprehension. These skills should be developed during the under-

graduate years.

Pre-law students should register with the Legal Professions Advisory Committee (LPAC) upon entering Lycoming and should join the Pre-Law Society on campus. LPAC assists the pre-law student through advisement, compilation of recommendations, and dissemination of information and materials about law and the legal profession. The Pre-Law Society has sponsored films, speakers, and field trips, including visits to law school campuses.

**Preparation for Theological Professions** — The Theological Professions Advisory Committee (TPAC) acts as a "center" for students, faculty, and clergy to discuss the needs of students who want to prepare themselves for the ministry, religious education, advanced training in religion, or related vocations. Also, it may help coordinate internships for students who desire practical experience in the parish ministry or related areas. Upon entering Lycoming, students should register with TPAC if they plan to investigate the religious vocations.

In general, students preparing to attend a theological seminary should examine the suggestions set down by the Association of Theological Schools (available from TPAC). Recommended is a broad program in the liberal arts, a major in one of the humanities (English, history, languages, literature, philosophy, religion) or one of the social sciences (American studies, criminal justice, economics, international studies, political science, psychology, sociology-anthropology), and a variety of electives. Students preparing for a career in religious education should major in religion and elect five or six courses in psychology, education, and sociology. This program of study will qualify students to work as an educational assistant or a director of religious education after graduate study in a theological seminary.

## REGISTRATION

During the registration period, students select their courses for the next semester and register their course selections in the

Office of the Registrar. Course selection is made in consultation with the student's faculty advisor in order to insure that the course schedule is consistent with College requirements and student goals. After the registration period, any change in the student's course schedule must be approved by both the faculty advisor and Office of the Registrar. Students may not receive credit for courses in which they are not formally registered.

During the first five days of classes, students may drop any course without any record of such enrollment appearing on the permanent record, and they may add any course that is not closed. Students wishing to drop a course between the fifth day and the 12th week of classes must secure a withdrawal form from the Office of the Registrar. Withdrawal grades are not computed in the grade point average. Students may not withdraw from courses after the 12th week of a semester and the comparable period during the May and summer terms.

In two-credit (1/2 unit) courses meeting only during the last half of any semester, students may drop/add for a period of five days, effective with the mid-term date shown on the academic calendar. Withdrawal from half-semester courses with a withdrawal grade may occur within six weeks of the beginning of the course. It is understood that the period of time at the beginning of the semester and at the mid-point of the semester will be identical, for example, a period of five days as indicated above.

### THE UNIT COURSE SYSTEM

Instruction at Lycoming College is organized, with few exceptions, on a departmental basis, most courses are unit courses, meaning that each course taken is considered to be equivalent to four semester hours of credit. Exceptions occur in applied music and theatre practicum courses, which are offered for either one-half or one semester hour of credit, and in departments that have elected to offer certain courses for the equivalent of one, two or three semester hours of credit. Further, independent

studies and internships carrying two semester hours of credit may be designed. The normal student course load is four courses during the fall and spring semesters. Students who elect to attend the special sessions may enroll in one course during the May term and one or two courses in the summer term. A student is considered full time when enrolled for a minimum of three courses during the fall or spring semesters, one course for the May term, and two courses for the summer term. Students may enroll in five courses during the fall and spring during semesters if they are Lycoming scholars or were admitted to the Dean's List at the end of the previous semester. Exceptions may be granted by the Dean of the College. Overloads are not permitted during the May and summer terms.

### THE SYSTEM OF GRADING AND REPORTING OF GRADES

The evaluation of student performance in credit courses is indicated by the use of traditional letter symbols. These symbols and their definitions are as follows:

**A Excellent** — Signifies superior achievement through mastery of content or skills and demonstration of creative and independent thinking.

**B Good** — Signifies better-than-average achievement wherein the student reveals insight and understanding.

**C Satisfactory** — Signifies satisfactory achievement wherein the student's work has been of average quality and quantity. The student has demonstrated basic competence in the subject area and may enroll in additional course work.

**D Passing** — Signifies unsatisfactory achievement wherein the student met only the minimum requirements for passing the course and should not continue in the subject area without departmental advice.

**F Failing** — Signifies that the student has not met the minimum requirements for passing the course.

**I Incomplete work** — Assigned in accordance with the restrictions of established academic policy.

**R A repeated course** — Students shall have the option of repeating courses for which they already have received a passing grade in addition to those which they have failed. Credit is received only once for the course. The most recent course grade will count toward the G.P.A.

**P Passing work, no grade assigned** — Converted from traditional grade of A through D.

**X Audit** — Work as an auditor for which no credit is earned.

**W Withdrawal** — Signifies withdrawal from the course from the sixth day through the twelfth week of the semester.

The cumulative grade point average (GPA) is calculated by multiplying quality points by credits and dividing the total quality points by the total credits. A quality point is the unit of measurement of the quality of work done by the student.

Grade	Quality Points Earned for each semester
	hour
A	4.00
A —	3.67
B +	3.33
B	3.00
B —	2.67
C +	2.33
C	2.00
C —	1.67
D +	1.33
D	1.00
D —	0.67
F	0.00

The grade point average for the major is calculated in the same manner for the courses required for the major.

A minimum of 2.00 is required for the cumulative grade point average and for the grade point average in the major to meet the requirements for graduation. You cannot compute your cumulative GPA by averaging your semester GPA's.

Use of the pass/fail grading option is limited as follows (this does not apply to Education 005 and English 005):

- students may enroll on an P/F basis in no more than one course per semester and no more than four courses during the undergraduate career.
- P/F courses completed after declaration of the major may not be used to satisfy a requirement of that major, including courses required by the major department which are offered by other departments. (Instructor-designated courses are excepted from this limitation.)
- courses for which a grade of P is recorded may not be used toward fulfillment of any distribution requirement.
- students may not enroll in English 106 on an P/F basis.
- a course selected on an P/F basis which is subsequently withdrawn will not count toward the four-course limit.
- instructor-designated courses may be offered during the May term with the approval of the Dean of the College. Such courses are not counted toward the four-course limit.
- P grades are not computed in the grade point average.
- students electing the P/F option may designate a minimum acceptance letter grade from A to B-. If the student earns the designated grade or better, the grade will be recorded in the permanent record and computed in the grade point average. If a passing grade lower than the designated grade is earned, a grade of P will be recorded in the permanent record, but will not be computed in the grade point average. If a student selects P/F (with no designated minimum acceptance grade) and earns a grade of A to D-, a P will be recorded on the permanent record but not computed in the grade point average. In all cases, if a student earns a grade of F this grade will be recorded in the permanent record and computed in the student's grade point

average.

- students must declare the P/F option before the end of the period during which courses may be added during any given semester, half-semester, or term.
- instructors are not notified which of their students are enrolled on an P/F basis.
- students electing the P/F option are expected to perform the same work as those enrolled on a regular basis.

Incomplete grades may be given if, for absolutely unavoidable reasons (usually medical in nature), the student has not been able to complete the work requisite to the course. An incomplete grade must be removed within six weeks of the next regular semester.

Students shall have the option of repeating courses for which they already have received a passing grade in addition to those which they have failed. Recording of grades for all repeated courses shall be governed by the following conditions:

- a course may be repeated only one time.
- both attempts will be recorded on the student's transcript.
- credit for the course will be given only once.
- the most recent grade will count toward the G.P.A. with this exception: A "W" grade cannot replace another grade.
- a repeated course will be counted toward the total number of unsuccessful attempts.

## ATTENDANCE

The academic program at Lycoming is based upon the assumption that there is value in class attendance for all students. Individual instructors have the prerogative of establishing reasonable absence regulations in any course. The student is responsible for learning and observing these regulations.

## STUDENT RECORDS

The policy regarding student educational records is designed to protect the privacy of students against unwarranted intrusions and is consistent with Section 438 of the General Education Provision Act (commonly known as the Family Educational Rights and Privacy Act of 1974, as amended). The details of the College policy on student records and the procedures for gaining access to student records are contained in the current issue of *Student Handbook*, which is available in the library and the Office of the Dean of Student Services.

## ACADEMIC STANDING AND ACADEMIC HONESTY

Students will be placed on academic probation if either the number of hours completed or cumulative grade point average falls below the following standards:

<i>Semester (Full-time)</i>	<i>Hours Completed</i>	<i>Cumulative GPA</i>
1	12	1.66
2	24	1.85
3	40	1.90
4	56	2.00
5	72	2.00
6	88	2.00
7	104	2.00
8	120	2.00

In order to meet graduation requirements, students must complete 128 credit hours. Students who are enrolled part time or for fewer than the normal four courses per term will be expected to complete an equivalent proportion of their program each semester.

Students will be subject to suspension from the College if they:

- are on probation for two consecutive semesters;
  - achieve a grade point average of 1.00 or below during any one semester.
- Students will be subject to dismissal from the College if they:

— can not reasonably complete all requirements for a degree;

— exceed 24 semester hours of unsuccessful course attempts (grades of F, W, and R) except in the case of withdrawal for medical or psychological reasons.

The integrity of the academic process of the College requires honesty in all phases of the instructional program. The College assumes that students are committed to the principle of academic honesty. Students who fail to honor this commitment are subject to dismissal. Procedural guidelines and rules for the adjudication of cases of academic dishonesty are printed in *The Faculty Handbook* and *The Pathfinder* (the student academic handbook), copies of which are available in the library.

## TRANSFER CREDIT

College students who wish to study at other campuses must obtain prior written approval to do so from their advisor and the Lycoming College registrar. Coursework counting toward a major or minor must be approved in advance by the chairperson of the department in which the major or minor is offered. Once a course is approved, the credit and grades for the course will transfer to Lycoming and be calculated in the student's grade point average as if the courses were taken here. This means that "D" and "F" grades will transfer as well as all other grades. In addition, students are expected to be registered at Lycoming for their last eight courses. Requests for waivers of this regulation must be sent to the Committee on Academic Standards. Final determination of transfer credit will be made by the Lycoming College registrar based on official transcripts only.

## CREDIT BY EXAMINATION

**Advanced Placement** — Entering freshmen who have completed an advanced course while in secondary school and who have taken the appropriate advanced-placement examination of the College Entrance Examination Board

(CEEB) are encouraged to apply for credit and advanced placement at the time of admission. A grade of three or above is considered satisfactory. Students should inform the Registrar's Office and their academic advisor immediately when advanced placement examinations have been taken.

### College Level Examination Program (CLEP)

— Students may earn college credit for superior achievement through CLEP. By achieving at the 75th percentile or above on the General Examinations and the 65th percentile or above on approved Subject Examinations, students may earn up to 50 percent of the course requirements for a bachelor of arts degree. Although these examinations may be taken after enrollment, new students who are competent in a given area are encouraged to take the examination of their choice during the second semester of their senior year so that Lycoming will have the test scores available for registration advisement for the first semester of enrollment. Further information about CLEP may be obtained through the secondary-school guidance office or the Office of Admissions or the Registrar at Lycoming College. Students should inform the Registrar's Office and their academic advisor immediately when CLEP examinations have been taken.

## ACADEMIC HONORS

**Deans's List** — Students are admitted to the Dean's List at the end of the fall and spring semesters if they have completed at least 15 credits with other than P or R grades, and have a minimum grade point average of 3.50 for the semester.

**Graduation Honors** — Students are awarded the bachelor of arts degree, the bachelor of fine arts degree, or the bachelor of science in nursing degree with honors when they have earned the following grade point averages based on all courses attempted at Lycoming, with a minimum of 64 credits (16 units) required for a student to be eligible for honors:

summa cum laude ..... 3.90-4.00

magna cum laude ..... 3.50-3.89

cum laude ..... 3.25-3.49

**Academic Honor Awards, Prizes, and Societies** — Superior academic achievement is recognized through the conferring of awards and prizes at the annual Honors Day convocation, the Academic Awards banquet, and Commencement and through election to membership in honor societies.

### Societies

Biology ..... Beta Beta Beta  
Freshmen Men ..... Blue Key  
Freshmen Women ..... Gold Key  
Economics .... Omicron Delta Epsilon  
English ..... Sigma Tau Delta  
General Academic ..... Phi Kappa Phi  
History ..... Phi Alpha Theta  
Nursing ..... Sigma Theta Tau\*  
Philosophy ..... Phi Sigma Tau  
Physics ..... Sigma Pi Sigma  
Political Science ..... Pi Sigma Alpha  
Psychology ..... Psi Chi  
Social Science ..... Pi Gamma Mu  
Theatre .. Alpha Psi Omega (Omega Chi)

\*charter application filed in Spring 1988

### Prizes and Awards

**American Chemical Society Award** — The award, sponsored by the Susquehanna Valley Chapter of the society, is given to the outstanding senior in chemistry who plans to enter the profession.

**Accounting Society Service Award** — The award is given for outstanding service to the Lycoming College Accounting Society.

**American Institute of Chemists Prize** — The prize, given by the Philadelphia section of the institute, goes to a senior major for excellence in chemistry.

**William T. and Ruth S. Askey Music Prize** — given to a graduating senior who is recognized for his/her proficiency as a music major.

**Jack C. Buckle Award** — The award is given annually to a junior male student with high moral qualities, who has made

an unusual contribution to campus life through leadership in student activities.

*Byron C. Brunstetter Science Award* — The award is given for outstanding achievement in chemical and biological sciences.

*CRC Press Chemistry Achievement Award* — The award is given to that freshman who has exhibited the highest academic achievement in chemistry.

*Chieftain Award* — The College's most prestigious award is given to the senior who has contributed most to Lycoming through support of school activities; who has exhibited outstanding leadership qualities; who has worked effectively with other members of the College community; who has evidenced a good moral code; and whose academic rank is above the median for the preceding senior class.

*Civic Choir Award* — The award is given to the College choir member who has outstanding musical ability and who has made significant leadership contributions to the choir.

*Class of 1907 Prize* — The prize is given to the senior who has been outstanding in the promotion of College spirit through participation in athletics and other activities.

*Benjamin C. Conner Prize* — The prize is given to the graduating student who has done outstanding work in mathematics.

*Biology Service Award* — student who has shown good academic work and has fostered the ideals of the department by willingness to become involved in the activities of the department.

*Freshman Biology Award* — freshman who has obtained the highest overall average in Biology 110-111 (major biology lecture and laboratory).

*Durkheim Award* — The award is given to the senior sociology/anthropology ma-

jor who has done outstanding work in the field.

*Bishop William Perry Eveland Prize* — The prize is given to the senior who has shown progress in scholarship, loyalty, school spirit, and participation in school activities.

*Excellence in Two-Dimensional Art Award* — The award is given to the outstanding senior art major in this field.

*Excellence in Three-Dimensional Art Award* — The award is given to the outstanding senior art major in this field.

*Excellence in Theatre Performance Award* — The award is given to the student who has been outstanding as a performer in the Arena Theatre.

*Excellence in Technical Theatre Award* — The award is given to the student who has been outstanding as a technician for the Arena Theatre.

*Excellence in Political Science Award* — The award goes to the senior political science major who has performed with excellence.

*W. Arthur Faus Memorial Prize* — Prize given in memory of Dr. W. Arthur Faus, a former Professor of Philosophy at Lycoming College, to the graduating senior who has done outstanding work in philosophy.

*J.W. Ferree Award* — Given in memory of the first mathematics professor at Lycoming's forerunner, the Dickinson Seminary, the award goes to the student most active in mathematical sciences.

*Faculty Prize* — The prize is given to the commuting student with satisfactory scholarship and who has been outstanding in promotion of school spirit through participation in school activities.

*Durant L. Furey III Memorial Prize* — The prize is given to the senior accounting major who has shown outstanding achievement in accounting.

*Gillette Foreign Language Prizes* — The prizes are given to the French, German, and Spanish majors who have achieved excellence in foreign languages.

*John P. Graham Award* — Named in honor of a professor emeritus, the award is given to the senior English major who achieves the highest average in English.

*Edward J. Gray Prizes* — The prizes are given to the graduating students with the highest and second highest averages.

*Dan Gustafson Award* — In memory of a former member of the English Department, the award is given to the senior English major whose analytical writing demonstrates the highest standards of literary and critical excellence.

*IRUSKA Awards* — The awards denote membership in the society for juniors who are very active on campus.

*Junior Book Award* — The award is given to the outstanding junior political science major.

*Elisha Benson Kline Prize* — The prize is given to the senior mathematics major with outstanding achievement in the field.

*The Kramer and Hoffmann Associates Award* — for superior achievement in Federal Income Tax.

*Charles J. Kocian Awards* — The awards are given to the accounting, business administration, and economics majors who show the greatest proficiency in statistics; the mathematics major who shows the greatest proficiency in applied mathematics; the graduating senior who shows the greatest proficiency in computer science and operations research; the graduating senior business administration major with highest grade point average; the graduating senior with highest average in the class and the graduating nursing major with highest grade point average.



*Don Lincoln Larrabee Law Prize* — The prize is given to the graduating student who has shown outstanding scholarship in legal principles.

*The John M. Lindemuth Endowed Prize Fund* — The John M. Lindemuth Endowed Prize Fund, established in 1986 by Mr. and Mrs. John M. Lindemuth of Williamsport, Pennsylvania, provides annual cash awards for varsity football players who earn the highest cumulative grade point average in their chosen field of academic study at Lycoming College. This prize is managed in compliance with current NCAA regulations concerning scholastic awards for athletes.

*C. Daniel and Jeanne Little Award* — Presented in memory of two Lycoming alumni, the award is given to the outstanding student in public administration.

*The Gertrude B. Madden Mass Communication Award* — Established in 1985 by the students of the Mass Communication Society, the award is to be presented annually to the senior mass communication major who, in the judgment of his or her peers, has best integrated academic excellence, professional development in a mass media field and contribution to campus media.

*The Makisu Award* — The award is given for outstanding service to the college community, for dedication above and beyond the realm of one's obligations to the College.

*John C. McCune Memorial Prizes* — The prizes are given to the senior majors in mathematics, biology, chemistry, physics, philosophy, and psychology who have attained the highest averages.

*Ethel McDonald Pax Christi Award* — The award is given for outstanding but quiet consistency in the life of faith and the practice of Christianity, noteworthy personal integrity and humble loving compassion expressed in daily life.

*Walter G. McIver Award* — Named after Lycoming's former choir director, the award is given to the choir member who has made outstanding campus contributions outside of choir.

*Department of Nursing Award for Clinical Excellence* — outstanding achievement in the clinical setting.

*Department of Nursing Faculty Award* — senior nursing major who best exemplifies the spirit of the profession.

*Lycoming College Nursing Honor Society Research Recognition Award* — given to the nursing student who has demonstrated an in-depth understanding of the research process, as evidenced by a completed research project, with formal dissemination of the results of the study.

*Pennsylvania Institute of Certified Public Accountants Award* — The award is given to the senior accounting major who has demonstrated high scholastic standing and qualities of leadership.

*Pocahontas Award* — The award is given to Lycoming's outstanding female athlete.

*Psi Chi Service Award* — The award is given for contributions to the Psychology Department.

*Research and Writing Prize in History* — The prize is given to the student who does the best work in History 45.

*The Professor Logan A. Richmond Accounting Prize* — is awarded annually to a graduating senior who has done outstanding work in accounting and demonstrated exceptional proficiency in writing.

*The Janet A. Rodgers Academic Award* — established in honor of the founding chair of the Department of Nursing, provides an annual \$100 award to senior nursing student who demonstrates exceptional academic achievement and has been an active participant in health-related programs.

*Mary L. Russell Award* — Named in honor of a professor emeritus of music, the award is given for outstanding musical achievement.

*Sadler Prize* — The prize is given to the student with the highest achievement in calculus, foundations of mathematics, algebra, and analysis.

*Nathan A. Scheib Memorial Music Fund* — In memory of a friend of the College, the fund provides financial assistance to qualified deserving students for advanced training in music.

*Senior Management Award* — The award is given to the senior business major with the best senior project in Business Administration 41.

*Senior Scholarship Prize in History* — The prize is given to the senior major with the highest average.

*Service to Lycoming Award* — Sponsored by the Office of Student Services, the award is given to students who have made outstanding contributions to Lycoming.

*Frances K. Skeath Award* — The award is given to the senior with outstanding achievement in mathematics.

*J. Milton Skeath Award* — The award is given for superior undergraduate achievement and potential for further work in psychology.

*Sophomore Intermediate Accounting Award* — for the accounting major with the highest average in Intermediate Accounting at the end of the spring term.

*John A. Streeter Memorial Award in Economics* — The award is given to the graduating student with outstanding achievement in economics.

*John A. Streeter Memorial Award in Music* — The award is given to the College band member who has outstanding musical ability and who has



made significant leadership contributions to the band.

**Tomahawk Award** — The award is given to Lycoming's outstanding male athlete.

**Trask Chemistry Prize** — The prize is given to the senior chemistry major who has done outstanding work in the field.

**Wall Street Journal Awards** — Two awards are given. One is given to the senior business major for excellence in the field and service to the College community. A second award is given for excellence in economics.

**Williamsport Rotary Club Nursing Prize** — established in 1988, this endowed prize provides annual interest to a registered nurse with the highest cumulative grade point average. Candidates should have successfully completed a minimum of 24 academic credits toward the BSN degree.

**Sol "Woody" Wolf Award** — The award is given to the junior athlete who has shown the most improvement.

**Women of Lycoming Scholarship** — The scholarship is given to the junior woman student who has shown satisfactory scholarship, outstanding school spirit, and who is active in campus activities.

**Departmental Honors** — Honors projects are normally undertaken only in a student's major, and are available only to exceptionally well-qualified students who have a solid background in the area of the project and are capable of considerable self-direction. The prerequisites for registration in an honors program are as follows:

- a faculty member from the department(s) in which the honors project is to be undertaken must agree to be the director and must secure departmental approval of the project.

- the director, in consultation with the student, must convene a committee consisting of two faculty members from the department in which the project is to be undertaken, one of whom is the direc-

tor of the project, and one faculty member from each of two other departments related to the subject matter of the study.

- the honors committee must then certify by their signatures on the application that the project in question is academically legitimate and worthy of pursuit as an honors project, and that the student in question is qualified to pursue the project.

- the project must be approved by the Committee on Individual Studies.

Students successfully complete honors projects by satisfying the following conditions in accordance with guidelines established by the Committee on Individual Studies:

- the student must produce a substantial research paper, critical study, or creative project. If the end product is a creative project, a critical paper analyzing the techniques and principles employed and the nature of the achievement represented in the project shall be submitted.

- the student must successfully explain and defend the work in a final oral examination given by the honors committee.

- the honors committee must certify that the student has successfully defended the project, and that the student's achievement is clearly superior to that which would ordinarily be required to earn a grade of "A" in a regular independent-studies course.

- the Committee on Individual Studies must certify that the student has satisfied all of the conditions mentioned above.

Except in unusual circumstances, honors projects are expected to involve independent study in two consecutive unit courses. Successful completion of the honors project will cause the designation of honors in that department to be placed upon the permanent record. Acceptable theses are deposited in the College library. In the event that the study is not completed successfully or is not deemed worthy of honors, the student shall be re-registered in independent studies and given a final grade for the course.

**Auditors** — Any person may audit courses at Lycoming at one-fourth tuition per course. Laboratory and other special fees must be paid in full. Examinations, papers, and other evaluation devices are not required of auditors, but individual arrangements may be made to complete such exercises with the consent of the instructor. The option to audit a course must be declared during the same period (currently five days) at the beginning of each semester, half-semester, or term as drop/add and pass/fail and must be completed in the Registrar's Office.

## SPECIAL FEATURES

**Academic Resource Center** — The Academic Resource Center, located on the first floor of Rich Hall, provides a variety of free services to the campus community.

The ARC provides one-on-one peer tutoring in writing, math, foreign languages, and sciences on a walk-in basis and peer tutoring by arrangement in other subjects. Writing tutors use questioning techniques to help others develop confidence and independence as writers. Other tutors provide classroom support by assisting students with homework assignments and exam review.

Additional services available through the ARC include the following:

- Survival Skills Workshops on topics such as time management, stress management, note-taking from lectures and textbooks, word processing for beginners, and proofreading techniques;
- Paper File, a file of graded essays maintained by course;
- Documentation Style Manual, for use when documenting a research paper;
- the Writing Room, a quiet place for writers to work; and
- self-paced computer assisted instructional programs in typing and speed reading and comprehension.

**Developmental Program** — The developmental program is provided for stu-

dents who are identified as being able to benefit from specialized classroom instruction in college-level reading and writing skills. Students develop these basic skills in the context of the regular academic curriculum. Both reading and writing skills are taught as part of an integrated curriculum consisting of a one-half unit course in developmental writing (ENGLISH 005) and a one-half unit course in developmental reading and study skills (EDUCATION 005). These courses are coordinated with one of the following areas: economics, history, political science, psychology, or sociology. Math skills are taught in a one-half unit algebra course (mathematics 005) which is conducted on an individualized basis with tutorial support.

Placement tests in English and mathematics are administered as a part of the orientation program prior to matriculation. Scores on these tests determine placement in Education 005, English 005, and/or Mathematics 005. A placement test may be scheduled only once after matriculation.

**Independent Studies** — Independent studies are available to any qualified student who wishes to engage in and receive academic credit for any academically legitimate course of study for which he or she could not otherwise receive credit. It may be pursued at any level (introductory, intermediate, or advanced) and in any department, whether or not the student is a major in that department. Studies projects which duplicate catalog courses are sometimes possible, and are subject to the same provisions which apply to all studies projects. In order for a student to be registered in an independent-study course, the following conditions must be satisfied:

- an appropriate member of the faculty must agree to supervise the project and must certify by signing the application form that the project is academically legitimate and involves an amount of work appropriate for the amount of academic credit requested, and that the student in question is qualified to pursue the project.

- the studies project must be approved by the chairman of the department in which the studies project is to be undertaken.

- after the project is approved by the instructor and by the chairman of the appropriate department, the studies project must be approved by the Committee on Individual Studies.

In addition, participation in independent-studies projects, with the exception of those which duplicate catalog courses, is subject to the following:

- students may not engage in more than one independent-studies project during any given semester.

- students may not engage in more than two independent-studies projects during their academic careers at Lycoming College.

As with other academic policies, any exceptions to these two rules must be approved by the Committee on Academic Standards.

**Internship Program** — An internship is a course jointly sponsored by the College and a public or private agency or subdivision of the College in which a student is enabled to earn college credit by participating in some active capacity as an assistant, aide, or apprentice. At least one-half of the effort expended by the intern should consist of academic work related to agency situations. The objectives of the internship program are (1) to further the development of a central core of values, awarenesses, strategies, skills, and information through experiences outside the classroom or other campus situations, and (2) to facilitate the integration of theory and practice by encouraging students to relate their on-campus academic experiences more directly to society in general and to possible career and other post-baccalaureate objectives in particular.

Any junior or senior student in good academic standing may petition the Committee on Individual Studies for approval to serve as an intern. A maximum of 16 credits can be earned through the internship program. Guidelines for

program development, assignment of tasks and academic requirements, such as exams, papers, reports, grades, etc., are established in consultation with a faculty director at Lycoming and an agency supervisor at the place of internship.

Students with diverse majors have participated in a wide variety of internships, including those with the Allenwood Federal Prison Camp, Lycoming County Commissioners Office, Department of Environmental Resources, Head Start, Lycoming County Historical Society, business and accounting firms, law offices, hospitals, social service agencies, banks, and Congressional offices.

**May Term** — The May term is a four-week voluntary session designed to provide students with courses listed in the catalog and experimental and special courses that are not normally available during the fall and spring semesters and summer term. Some courses are offered on campus; others involve travel. A number offer interdisciplinary credit. Illustrations of the types of courses offered during the May term are:

- (a) Study-Travel: Cultural tours of Germany, Spain, and France; Archaeological expeditions to the Middle East; Anthropological expeditions to study tri-cultural communities in New Mexico; Utopian Communities; Revolutionary and Civil War Sites; Colonial America on Tour; Art on the East Coast; The New Kingdom in Ancient Egypt.

- (b) On-Campus: Field Geology, Field Ornithology, Energy Economics, Writer's Seminar, Psychology of Group Processes, Collective Bargaining, Aquatic Biology, Medical Genetics, Energy Alternatives, White Collar Crime, Lasers and their Applications, Selected Short Story Writers and their Works, Popular Forms of Contemporary Fiction, Administrative and Organizational Behavior of Police, Plant and Greenhouse Management, and Street Law.

Although participation in the May term is voluntary, student response has been outstanding with approximately 20 percent of the student body enrolling. In addition to the courses themselves,

attractions include small and informal classes and reduced tuition rates.

**Part Time Students** — Students who do not wish to pursue a degree at Lycoming College may, if space permits, register for credit or audit courses on either a part-time or full-time basis. Students who register for one or two courses are considered to be enrolled part time; students who register for three or four courses are considered to be enrolled full time.

Anyone wishing to register as a non-degree student must fill out an application form in the Admissions Office, pay a one-time application fee and pay the tuition rate in effect at the time of each enrollment. After a non-degree student has attempted four courses, the Dean of the College reserves the right to grant or deny permission to continue to register in this category.

All non-degree students are subject to the general laws and regulations of the College as stated in the *College Catalog* and the *Student Handbook*. The College reserves the right to deny permission to register to individuals who do not meet the standards of the College.

Students who wish to change from a non-degree to a degree status must reapply (with no application fee) and satisfy all conditions for admission and registration in effect at the time of application for degree status.

**Study Abroad** — Students have the opportunity to study abroad under auspices of approved universities and agencies. While study abroad is particularly attractive to students majoring in foreign languages and literatures, this opportunity is open to all students in good academic standing. Mastery of a foreign language is desirable but not required in all programs. Dr. Richard Barker, assistant professor of foreign languages and literatures, serves as coordinator for the Study Abroad Program. Interested students may contact him about opportunities available and procedural questions.

**Teacher Intern Program** — The purpose of the teacher intern program is to

provide individuals who have completed a baccalaureate degree with the opportunity to become certified teachers through on-the-job training. Interns can earn a Lycoming College Teacher Education Certificate and be certified by the Commonwealth of Pennsylvania in elementary education or one or more of the following secondary areas: art, biology, chemistry, English, French, general science (with biology or astronomy/physics tracks), German, mathematics, music, physics, social studies, and Spanish.

Interested individuals should file a formal application with the Education Department for admission to the Intern Program. Upon completion of the application process, interns receive a letter of Intern Candidacy from the Pennsylvania Department of Education which the candidate then uses to apply for a teaching position. Necessary professional coursework can be completed prior to the teaching experience or coordinated with the teaching experience when individuals obtain teaching positions.

**NOTE:** Lycoming College cannot assume responsibility for the health, safety, or welfare of any student engaged in or en route to or from any off-campus study or activity not under the exclusive jurisdiction of this institution.

## COOPERATIVE PROGRAMS

Lycoming has developed several cooperative programs to provide students with opportunities to extend their knowledge, abilities, and talents in selected areas through access to the specialized academic programs and facilities of other colleges, universities, academies, and hospitals. Although thorough advisement and curricular planning are provided for each of the cooperative programs, admission to Lycoming and registration in the program of choice do not guarantee admission to the cooperating institution. The prerogative of admitting students to the cooperative aspect of the program rests with the cooperating institution. Students who are interested in a cooperative program should contact the coordinator

during the first week of the first semester of their enrollment at Lycoming. This is necessary to plan their course programs in a manner that will insure completion of required courses according to the schedule stipulated for the program. All cooperative programs require special coordination of course scheduling at Lycoming.

**Engineering** — Combining the advantages of a liberal-arts education and the technical training of an engineering curriculum, this program is offered in conjunction with The Pennsylvania State University. Students complete three years of study at Lycoming and two years at the cooperating university. Upon satisfactory completion of the first year of engineering studies, Lycoming awards the bachelor of arts degree. When students successfully complete the second year of engineering studies, the cooperating university awards the bachelor of science degree in engineering.

At Lycoming, students complete the distribution program and courses in physics, mathematics, and chemistry. The Pennsylvania State University offers aerospace, agricultural, ceramic, chemical, civil, electrical, engineering science, environmental, industrial, mechanical, mining and nuclear engineering.

**Forestry or Environmental Studies** — Lycoming College offers a cooperative program with Duke University in environmental management and forestry. Qualified students can earn the bachelor's and master's degrees in five years, spending three years at Lycoming and two years at Duke. All Lycoming distribution and major requirements must be completed by the end of the junior year. At the end of the first year at Duke, the A.B. degree will be awarded by Lycoming. Duke will award the professional degree of Master of Forestry or Master of Environmental Management to qualified candidates at the end of the second year.

The major program emphases at Duke are Forest Resource Management, Resource Economics and Policy, and Re-

source Ecology. The program is flexible enough, however, to accommodate a variety of individual designs. An undergraduate major in one of the natural sciences, social sciences, or business may provide good preparation for the programs at Duke, but a student with any undergraduate concentration will be considered for admission. All students need at least two courses each in biology, mathematics, and economics.

Students begin the program at Duke in July after their junior year at Lycoming with a one-month session of field work in natural resource management. They must complete a total of 48 units which generally take four semesters.

Some students prefer to complete the bachelor's degree before undertaking graduate study at Duke. The master's degree requirements for these students are the same as for those students entering after the junior year, but the 48-unit requirement may be reduced for completed relevant undergraduate work of satisfactory quality. All credit reductions are determined individually and consider the student's educational background and objectives.

**Medical Technology** — Students desiring a career in medical technology may either complete a bachelor of arts program followed by a clinical internship at any American Medical Association-accredited hospital, or they may complete the cooperative program. Students electing the cooperative program normally study for three years at Lycoming, during which time they complete 24 unit courses, including the College distribution requirements, a major, and requirements of the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). The current requirements of the NAACLS are: four courses in chemistry (one of which must be either organic or bio-chemistry); four courses in biology (including courses in microbiology and immunology), and one course in mathematics.

Students in the cooperative program usually major in biology, following a modified major of six unit courses that exempts them from Ecology (Biology

224) and Plant Sciences (Biology 225). Students must take either Microbiology (Biology 221) or Microbiology for the Health Sciences (Biology 226), and either Animal Physiology (Biology 223) or Cell Physiology (Biology 335). The cooperative program requires successful completion of a one-year internship at an American Medical Association-accredited hospital. Lycoming is affiliated with the following accredited hospitals: Divine Providence, Rolling Hill, Robert Packer, Lancaster, and Abington. Students in the cooperative program receive credit at Lycoming for each of eight unit courses in biology and chemistry successfully completed during the clinical internship. Successful completion of the Registry Examination is not considered a graduation requirement at Lycoming College.

Students entering a clinical internship for one year after graduation from Lycoming must complete all of the requirements of the cooperative program, but are not eligible for the biology major exemptions indicated above. Upon graduation, such students may apply for admission to a clinical program at any hospital.

**Optometry** — Through the Accelerated Optometry Education Curriculum Program, students interested in a career in optometry may qualify for admission to the Pennsylvania College of Optometry after only three years at Lycoming College. After four years at the Pennsylvania College of Optometry a student will earn a Doctor of Optometry degree. Selection of candidates for the professional segment of the program is completed by the admissions committee of the Pennsylvania College of Optometry during the student's third year at Lycoming. (This is one of two routes that students may choose. Any student, of course, may follow the regular application procedures for admission to the Pennsylvania College of Optometry or another college of optometry to matriculate following completion of his or her baccalaureate program.) During the three years at Lycoming College, the student will complete 24

unit courses, including all distribution requirements, and will prepare for his or her professional training by obtaining a solid foundation in biology, chemistry, physics, and mathematics. During the first year of study at the Pennsylvania College of Optometry, the student will take 39 semester hours of basic science courses in addition to introductions to optometry and health care. Successful completion of the first year of professional training will complete the course requirements for the A.B. degree at Lycoming College.

Most students will find it convenient to major in biology in order to satisfy the requirements of Lycoming College and the Pennsylvania College of Optometry. Such students are allowed to complete a modified biology major which will exempt them from two biology courses: Ecology (Biology 224) and Plant Sciences (Biology 225). (This modified major requires the successful completion of the initial year at the Pennsylvania College of Optometry.) Students desiring other majors must coordinate their plans with the Health Professions Advisory Committee in order to insure that they have satisfied all requirements.

**The Philadelphia Urban Semester** — A full semester liberal arts program for professional development and field study is now available to Lycoming students. The program components are: field placement; City Seminar; evening seminars; and living and learning in the city. The program is open to students majoring in any discipline or program. The Philadelphia Urban Semester is sponsored and administered by the Great Lakes Colleges Association (Albion, Antioch, Denison, De Pauw, Earlham, Hope, Kalamazoo, Kenyon, Oberlin, Ohio Wesleyan, Wabash, Wooster).

Normally the above special-semester programs are open only to juniors.

**NOTE:** Lycoming College cannot assume responsibility for the health, safety, or welfare of students engaged in or en route to or from any off-campus studies or activities which are not under the exclusive jurisdiction of this institution.

**Podiatry** — Students interested in podiatry may either seek admission to a college of podiatric medicine upon completion of the bachelor of arts degree or through the Accelerated Podiatric Medical Education-Curriculum Program (APMEC). The latter program provides an opportunity for students to qualify for admission to the Pennsylvania College of Podiatric Medicine (PCPM) or the Ohio College of Podiatric Medicine (OCPM) after three years of study at Lycoming. At Lycoming, students in the APMEC program must successfully complete 24 unit courses, including the distribution requirements and a basic foundation in biology, chemistry, physics, and mathematics. During the first year of study at PCPM or OCPM, students must successfully complete a program of basic science courses and an introduction to podiatry. Successful completion of the first year of professional training will contribute toward the fulfillment of the course requirements for the bachelor of arts degree at Lycoming.

Most students in the cooperative program will major in biology; if so, they will be allowed to complete a modified major which will exempt them from two biology courses: Ecology (Biology 224) and Plant Sciences (Biology 225). (This modified major requires the successful completion of the initial year at PCPM or OCPM).

Students interested in a career in podiatric medicine should indicate their intentions to the Health Professions Advisory Committee.

**U.S. Army Reserve Officers Training Corps Program (R.O.T.C.)** — The program provides an opportunity for Lycoming students to enroll in R.O.T.C. Lycoming notes enrollment in and successful completion of the program on student transcripts. Military Science is a four-year program divided into a basic course given during the freshman and sophomore years and an advanced course given during the junior and senior years. Students who have not completed the basic course may qualify for the advanced course by completing summer camp between the sophomore and junior

years. Students enrolled in the advanced course receive an annual stipend of \$1,000. One course each in written communication, human behavior and military history will fulfill the professional military education requirements. R.O.T.C. scholarship cadets must also complete one semester of a foreign language.

Students successfully completing the advanced course and advanced summer camp between the junior and senior years will qualify for a commission as a Second Lieutenant in the United States Army upon graduation, and will incur a service obligation in the active Army or Army Reserves. The only expense to the student for this program is the \$75 uniform deposit, which is refundable, less costs.

**Sculpture** — The Art Department with the Johnson Atelier Technical Institute of Sculpture in Mercerville, New Jersey, offers a BFA degree in sculpture. It uses a classical apprenticeship approach as its teaching method. This ancient method of teaching is combined at Johnson with the most modern and technically advanced foundry and fabricating techniques.

The Art Department offers a synthesis program that interrelates the student experience at both institutions. This is achieved by having the student rotate between Lycoming and the atelier so that each form of education is preparation for the other. Lycoming offers a core academic program, a course of study in the Art Department, and elective course opportunities. Lycoming gives eight course units of college credit to the student for having successfully completed one of the apprenticeship programs at the Johnson Atelier.

All work completed by the student at Lycoming by the end of the sophomore year will be applicable to a bachelor of arts degree with a major in art should the student decide to withdraw from the BFA program. If the student should withdraw from the cooperative program prior to completing the apprenticeship at the Johnson Atelier, Lycoming will give up to four units of credit or one semester's work for the internship. If, however, the

student completes more work at the atelier than the four units, that extra work will not be credited to the bachelor of arts degree; it will only be used as part of the bachelor of fine arts degree, and then only if the course at the atelier is completed.

This course of study is very rigorous. It will require that the student be involved almost continuously, either at Lycoming or at the Johnson Atelier, during the four years it will take to complete the degree. (See Art Department listing for specific program.)

**Student Enrichment Semester** — This voluntary program is designed to expand academic and life opportunities for students and to provide for participation in specialized programs and courses not available at Lycoming. Other members of the program are Bucknell and Susquehanna Universities, the Williamsport Area Community College, and Bloomsburg, Lock Haven, and Mansfield Universities. Students other than freshmen enroll full or part time for credit, normally for one semester or term, at any participating institution in selected courses. Students in the program remain fully enrolled as degree candidates at their home institutions. A special opportunity within the program is the cross-registration arrangement with the Williamsport Area Community College, whereby students may enroll for less than a full-time course load while remaining enrolled in courses at Lycoming.

**Student Teaching Abroad** — Lycoming College has established a cooperation program with Moorhead State University whereby teacher education students may do all or part of their student teaching in a foreign country.

This program offers exceptional students the opportunity to student teach in nearly any country in the world. Students are placed in independent international schools where English is the instructional language. An effort is made to assign students in geographical areas that will enrich their backgrounds, serve their special interests and expand their cultural horizons.

**Washington, United Nations and London Semester and Capitol Semester Internship Program** — With the consent of the Department of Political Science, selected students are permitted to study in Washington, D.C., at The American University for one semester. They may choose from seven different programs: Washington Semester, Urban Semester, Foreign Policy Semester, International Development Semester, Economic Policy Semester, Science and Technology Semester, American Studies Semester.

With the consent of either the Department of History or Political Science, selected students may enroll at Drew University in Madison, New Jersey, in the United Nations Semester, which is designed to provide a first-hand acquaintance with the world organization. Students with special interests in world history, international relations, law, and politics are eligible to participate.

The London Semester programs of Drew and The American Universities emphasize European history, politics, and culture. Interested students participate with the consent of either the Departments of History or Political Science.

The Capitol Semester Internship Program is available to eligible students on a competitive basis. The program is co-sponsored by Pennsylvania's Office of Administration and Department of Education. Paid Internships are available to students in most majors. Interested students should contact the Career Development Center for additional information.

## THE SCHOLAR PROGRAM

The Lycoming College Scholar Program is a special program designed to meet the needs and aspirations of highly motivated students of superior intellectual ability. The Lycoming Scholar satisfies the general distribution requirements, but on a more exacting level and with more challenging courses than the average student. Lycoming Scholars also participate in special courses and seminars and in serious independent study

culminating in a senior project supervised by their major department.

Students are admitted to the program by invitation of the Scholar Council, the group which oversees the program. The council consists of a Director and four other faculty selected by the Dean of the College, and four students elected by current scholars. The guidelines governing selection of new scholars are flexible: academic excellence, intellectual curiosity, and creativity are all taken into account. Students who desire to participate in the Scholar Program but are not invited may petition the Scholar Council for consideration.

To graduate as a Scholar, a student must have at least a 3.0 cumulative average. Scholars must take the First Year Scholar Seminar during their first year in the program and the Senior Scholar Seminar during their last year in residence at Lycoming. In addition, the following distribution requirements must be met. (Slightly modified requirements exist for students in the cooperative programs; a list of these requirements can be obtained from the Scholar Council.)

### Scholar Distribution Requirements for Students in AB and BFA Programs.

A. English. Scholars must complete English 106 and one literature course numbered 200 or higher. The Scholar Council strongly recommends that qualified scholars enroll in the honors section of English 106 if scheduling permits. English 106 must be taken during the freshman year.

B. Foreign Language/Mathematical Sciences. Scholars must satisfy the requirement in either language or mathematical sciences. *Language*: Scholars must complete two courses numbered 111 or higher (excluding courses taught in English). *Mathematical Sciences*: The mathematical placement test determines whether a Scholar must take two or three courses for distribution. At least one course must be selected from Mathematics 116, 128, 130, or 214. Only one computer science course may be used to

fulfill the mathematical sciences requirement.

C. Philosophy/Religion. Scholars must satisfy this requirement in either of the two areas. *Philosophy*: Two courses numbered 221 or higher. *Religion*: Two courses numbered 222 or higher.

D. Fine Arts. Scholars must satisfy the requirement in one of four areas. *Art*: Two options are available in art. Either two courses from Art 222, 223, 331, 332, 333, 334, 335 (Art History), or two courses from Art 111, 115, 220, and 225 (Studio Art). *Music*: The equivalent of two units of credit from Music 117, 167, 168, 169, 330 or higher. *Theatre*: Two courses from Theatre 140 or higher, excluding Theatre 148. *Literature*: Two literature courses from English 220 or higher, Foreign Languages and Literatures 225, or French, German, or Spanish 323 or higher.

E. Natural Sciences. Scholars must satisfy the requirements in one of three areas. *Astronomy/Physics*: Two courses numbered 111 or higher. *Biology*: Two courses numbered 110 or higher. *Chemistry*: Two courses numbered 110 or higher.

F. History/Social Sciences. Scholars must satisfy the requirements in one of five areas. *Economics*: Two courses numbered 110 or higher. *History*: Two courses, one of which must be numbered 200 or higher. *Political Science*: Two courses numbered 116 or higher. *Psychology*: Two courses including Psychology 110 and one course numbered 224 or higher (excluding Psychology 338). *Sociology/Anthropology*: Two courses from Sociology 110, 220, 224, 226, 227, 229, 300 or higher.

### Scholar Distribution Requirements for Students in BSN Program

A. English. Same as for BA and BFA degrees.

B. Mathematical Science. Same as for BA and BFA degrees. (Note that the nursing major requires Mathematics 103 and one from Computer Science 108 125, or Mathematics 214).

C. Philosophy/Religion. Met by taking Philosophy 219 and Religion 120.



D. Fine Arts/Language. Same as for BA and BFA scholars.

E. Natural Sciences. Met by Biology 113, Biology 114, Biology 226 (required for the major).

F. History/Social Science. Met by Psychology 110, Psychology 117, (required for the major) and one course in Sociology 300 or higher. (This sociology course may be taken in lieu of the introductory guided elective in Sociology for the BSN.)

**All Scholar Students must complete the following:**

G. Physical Education. Scholars must satisfy the same physical education requirements stipulated by the College for all students.

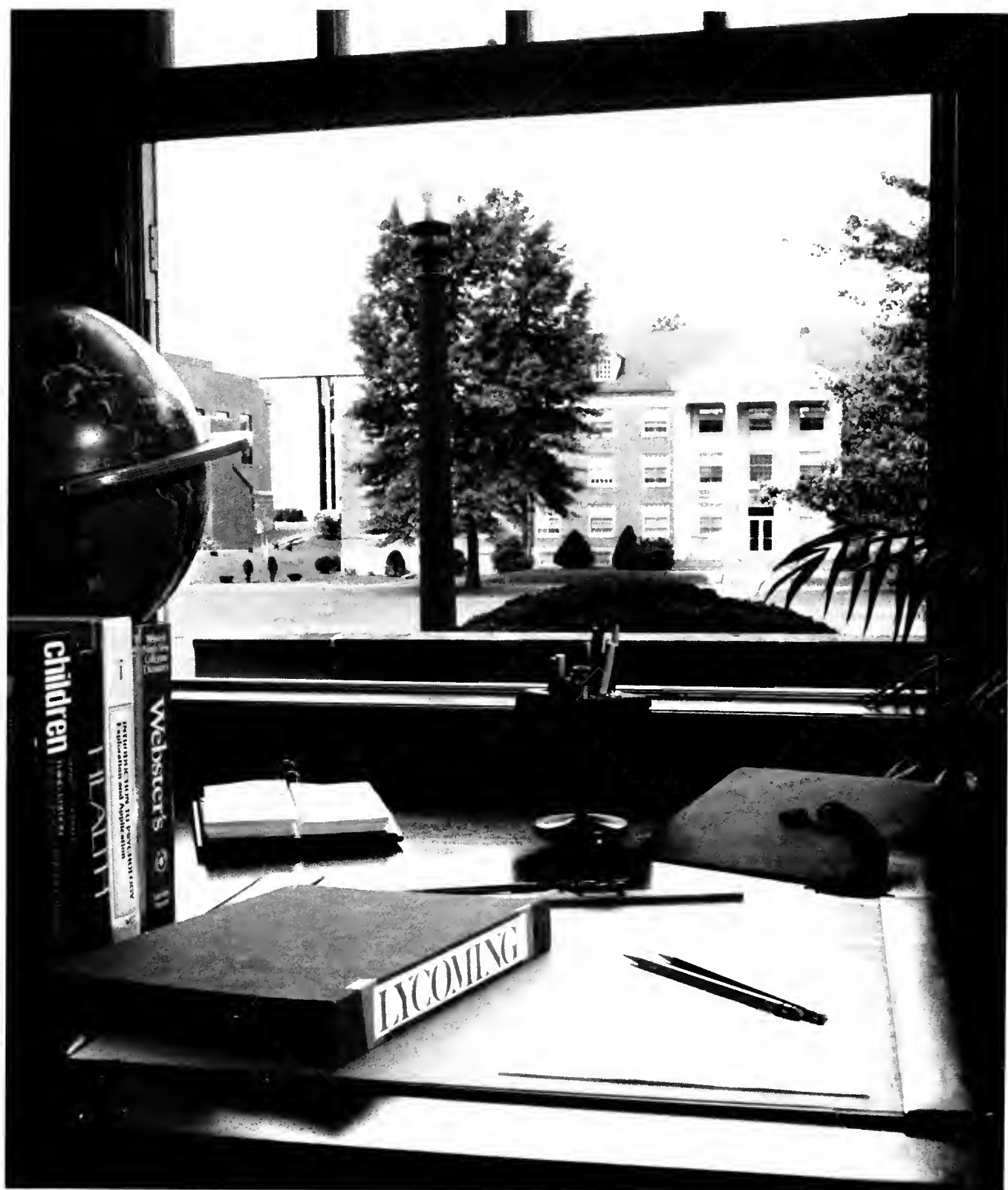
H. Designated Courses. In addition to completing the distribution requirements, Scholars will be required to complete two upper-level courses chosen from a list of "designated" courses selected and maintained by the Scholar Council. "Designated" courses must be outside of a scholar's major unless the scholar has more than one major. Normally, Scholars will not begin taking designated courses until their sophomore year.

I. Senior Project. In the senior year, scholars must successfully complete an independent studies or departmental honors project which has been approved in advance by the Independent Studies Committee and the Scholar Council. This project must be presented orally as part of the Senior Scholar Seminar and be accepted by the Scholar Council.

J. Scholars must complete a major and 32 units, exclusive of the First Year and Senior Scholar Seminars.

K. In the case of transfer students and those who seek to enter the program after their freshman year and in other cases deemed by the Scholar Council to involve special or extraordinary circumstances, the Council shall make adjustments to the scholar distribution requirements provided that in all cases such exceptions and adjustments would still satisfy the regular College distribution requirements.







# Curriculum

Numbers 001-049 Developmental courses

Numbers 100-149 Introductory courses and Freshman level courses

Numbers 200-249 Intermediate courses and Sophomore level courses

Numbers 300-349 Intermediate courses and Junior level courses

Numbers 400-449 Advanced courses and Senior level courses

Numbers N50-N59\* Non-catalogue courses offered on a limited basis

Numbers 160-169 Applied Music Theatre Practicums and other fractional credit courses

Numbers 470-479 Internships

Numbers N80-N89\* Independent Study

Numbers 490-491 Independent Study for Departmental Honors

\*N = course level 1, 2, 3, or 4 as determined by department

Courses not in sequence are listed separately, as:

Drawing	Art 111
Color Theory	Art 212

Courses which imply a sequence are indicated with a dash between, meaning that the first semester must be taken prior to the second, as:

Intermediate French  
French 111-112

All students have the right of access to all courses.

## ACCOUNTING

Associate Professor: Kuhns

Assistant Professor: Wienecke

Part-time Instructor: Crossley

The purpose of the accounting major is to help prepare the student for a career within the accounting profession. The major has two tracks. Track I is designed for students whose primary interests lie in the financial area or public accounting and provides preparation for the Certified Public Accountant Examination; Track II is designed for students with an interest in management accounting and provides preparation for the Certified Management Accountant Examination.

Track I — Financial Accounting re-

quires: Accounting 110, 220-221, 330, 440, 441, 443, 445, Mathematics 103, Computer Science 108, and one unit to be selected from Accounting 225, 226, 331, 442, 446, 447, and 448 or Internship. *Business 110 may be substituted for Accounting 110 if a student changes majors. Duplicate credit will not be granted.*

Students seeking entry into the public accounting field are advised to investigate the professional requirements for certification in the state in which they intend to practice so that they may meet all educational requirements prior to graduation. All Track I majors are advised to enroll in Economics 110 and 111, Business 335, 336, and 338, and one of the following: Business 340, Economics 220, or 337.

Track II — Management Accounting requires: Accounting 110, 220, 330-331, 444, and 470 or 480; Mathematics 103; Computer Science 108; and Business 338, 339, and 440. All Track II majors are advised to enroll in Economics 110 and 111 and Business 335 and 336. Students planning to sit for the Certified Management Accountant Examination are advised to enroll in Accounting 440, 441, 442, and 443. *Business 110 may be substituted for Accounting 110 if a student changes majors. Duplicate credit will not be granted.*

Three minors are offered by the Department of Accounting. The following courses are required to complete a minor in *Financial Accounting*: Accounting 110, 220, 221, 443, 447 and any other accounting course or independent study. A minor in *Managerial Accounting* requires the completion of Accounting 110, 220, 330-331 and 444. To obtain a minor in *Federal Income Tax*, a student must complete Accounting 110, 220-221, 441, and 442.

### 110 ELEMENTARY ACCOUNTING THEORY

An introductory course in recording, classifying, summarizing, and interpreting the basic business transaction. Problems of classification and interpretation of accounts and preparation of financial statements are studied. **Not open to students who have re-**

**ceived credit for Business 110.** *Prerequisite: Second-semester freshman or consent of instructor.*

### 220-221 INTERMEDIATE ACCOUNTING THEORY

An intensive study of accounting statements and analytical procedures with an emphasis upon corporate accounts, various decision models, price-level models, earnings per share, pension accounting, accounting for leases, and financial statement analysis. *Prerequisite: Accounting 110.*

### 225 FINANCIAL STATEMENT ANALYSIS

Deals with the analysis of financial statements as an aid to decision making. The theme of the course is understanding the financial data which are analyzed as well as the methods by which they are analyzed and interpreted. This course should prove of value to all who need a thorough understanding of the uses to which financial statements are put as well as to those who must know how to use them intelligently and effectively. This includes accountants, security analysts, lending officers, credit analysts, managers, and all others who make decisions on the basis of financial data. *Prerequisite: Accounting 110 or Business 110.*

### 226 GOVERNMENT AND FUND ACCOUNTING

This course is designed to introduce accounting for not-for-profit organizations. Municipal accounting and reporting are studied. *Prerequisite: Accounting 110 or Business 110. One-half unit of credit.*

### 330-331 COST AND BUDGETARY ACCOUNTING THEORY

Methods of accounting for material, labor, and factory overhead expenses consumed in manufacturing using job order, process, and standard costing. Application of cost accounting and budgetary theory to decision making in the area of make or buy, expansion of production and sales, and accounting for control are dealt with. *Prerequisites: Accounting 220 and Mathematics 103 or consent of instructor.*

### 440 AUDITING THEORY

A study of the science or art of verifying, analyzing, and interpreting accounts and reports. The goal of the course is to emphasize concepts which will enable students to understand the philosophy and environment of auditing. Special attention is given to the public accounting profession, studying auditing standards, professional ethics, the legal liability inherent in the attest function, the study and evaluation of internal control, the nature of evidence, the growing use of statistical sampling, the impact of electronic data processing, and the basic approach to plan-

ning an audit. Finally, various audit reports expressing independent expert opinions on the fairness of financial statements are studied. *Prerequisites: Accounting 221, Mathematics 103, and Computer Science 108.*

#### 441 FEDERAL INCOME TAX

Analysis of the provisions of the Internal Revenue Code relating to income, deductions, inventories, and accounting methods. Practical problems involving determination of income and deductions, capital gains and losses, computation and payment of taxes through withholding at the source and through declaration are considered. Planning transactions so that a minimum amount of tax will result is emphasized. *Prerequisite: Accounting 110 or consent of instructor.*

#### 442 FEDERAL INCOME TAX ADMINISTRATION AND PLANNING

An analysis of the provisions of the Internal Revenue Code relating to partnerships, estates, trusts, and corporations. An extensive series of problems is considered, and effective tax planning is emphasized. *Prerequisite: Accounting 441.*

#### 443 ADVANCED ACCOUNTING I

Certain areas of advanced accounting theory, including business combinations and consolidated financial statements. *Prerequisite: Accounting 221. One-half unit of credit.*

#### 444 CONTROLLERSHIP

Control process in the organization. General systems theory, financial control systems, centralization-decentralization, performance measurement and evaluation, forecasts and budgets, and marketing, production and finance models for control purposes. *Prerequisite: Accounting 331 or consent of instructor.*

#### 445 AUDITING PRACTICE

An audit project is presented, solved and the auditor's report written. **THIS COURSE IS LIMITED TO STUDENTS WHO HAVE EITHER COMPLETED OR ARE ENROLLED IN ACCOUNTING 440.** *One-half unit of credit. Grade will be recorded as "P" or "F."*

#### 446 SEMINARS ON APB OPINIONS AND FASB STANDARDS

A seminar course for accounting majors with library assignments to gain a workable understanding of the highly technical opinions of the Accounting Principles Board and standards of the Financial Accounting Standards Board. One term paper. Possible trip to New York City to attend a public hearing of the Financial Accounting Standards Board. *Prerequisite: Accounting 110. May term.*

#### 447 ADVANCED ACCOUNTING II

An intensive study of partnerships, installment and consignment sales, branch accounting, bankruptcy and reorganization, estates and trusts, government entities, and non-profit organizations. *Prerequisite: Accounting 221. One-half unit of credit.*

#### 448 CONTEMPORARY PROBLEMS FOR CPA CANDIDATES

Problems from the Accounting Practice sections of Past C.P.A. examinations, which require a thorough knowledge of the core courses in their solution, are assigned. The course is intended to meet the needs of those interested in public accounting and preparation for the Certified Public Accountant's examination. *Prerequisite: Accounting 330 or consent of instructor. One-half unit of credit. Grade will be recorded as "P" or "F."*

#### 470-479 INTERNSHIP (See index)

Interns in accounting typically work off campus under the supervision of a public or private accountant.

#### N80-N89 INDEPENDENT STUDY (See index)

Typical examples of recent studies in accounting are: computer program to generate financial statements, educational core for public accountants, inventory control, and church taxation.

#### 490-491 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See index)

### ACCOUNTING — MATHEMATICAL SCIENCES

Associate Professor: Kuhns  
(Coordinator)

The accounting-mathematical sciences interdisciplinary major is designed to offer, within a liberal-arts framework, courses which will aid in constructing mathematical models for business decision making. Students obtain the necessary substantial background in both mathematical sciences and accounting.

Required accounting courses are: Accounting 110, 220-221, 330-331, 441, 442. In mathematical sciences required courses are: Computer Science 125 and 321 and Mathematics 112, 128, 129, 338 and either 103 or 332. Recommended courses include: Mathematics

130, 238, 333; Business 223, 335, 336, 338, 339; Computer Science 108, 246; Economics 110, 111; Psychology 224, 225; and Sociology-Anthropology 110.

### AMERICAN STUDIES

Professor: Piper  
(Coordinator)

The American Studies major offers a comprehensive program in American civilization which introduces students to the complexities underlying the development of America and its contemporary life. Thirteen courses are included.

#### FOUR CORE REQUIREMENTS —

The primary integrating units of the major, these courses, some team-taught, will encourage students to consider ideas from different points of view and help them to correlate information and methods from various disciplines:

1. America As a Civilization: American Studies 200 (First semester of major study)
2. American Tradition in the Arts and Literature: American Studies 220
3. Research and Methodology: History 449 or Sociology/Anthro 447 (junior or senior year)
4. Internship or Independent Study (Junior or senior year)

**CONCENTRATION AREAS —** Six courses in one option and three in the other are needed. Six primary concentration-option courses in American Arts or American Society build around the insights gained in the core courses. They focus particular attention on areas most germane to academic and vocational interests. The three additional courses from the other option give further breadth to an understanding of America. Students also will be encouraged to take elective courses relating to other cultures.

Students should design their American Studies major in consultation with the program coordinator.

### *American Arts Concentration Option*

Art 332 — American Art of the 20th Century  
English 222 — American Literature I  
English 223 — American Literature II  
Music 118 — American Music I  
Music 119 — American Music II  
Theatre Studies — American Theatre

### *American Society Concentration Option*

Economics 224 — Urban Problems  
History 442 — U.S. Social and Intellectual History  
to 1877  
History 443 — U.S. Social and Intellectual History  
since 1877  
Political Science 331 — Civil Rights and Liberties  
Political Science 335 — Law and Society  
Sociology 334 — Racial and Cultural Minorities

### 200 AMERICA AS A CIVILIZATION

An analysis of the historical, sociocultural, economic, and political perspectives of American civilization with special attention to the interrelationships between these various orientations. May be taken for either one-half unit (Section 200A) or full unit (Section 200B); declared majors and prospective majors should take the full-unit course, 200B. Alternate years.

### 220 AMERICAN TRADITION IN THE ARTS AND LITERATURE

The relationship of the arts and literature to the various historical periods of American life.

470-479 INTERNSHIP  
N80-N89 INDEPENDENT STUDY  
490-491 INDEPENDENT STUDY FOR  
DEPARTMENTAL HONORS

### ART —

Professor: Shipley  
Associate Professor: Bogle  
Assistant Professor: Golahny  
(Chairperson)

Part-time Instructor: Willis  
Adjunct Faculty at Johnson Atelier:  
Bartons, Barrie, Lash, Pitynski The  
Art Department offers two majors in  
the B.A. Degree (Studio Art and Art  
History) and a second degree program,  
a B.F.A. Degree in Sculpture.

### The B.A. Degree — Studio Art

To complete a Bachelor of Arts

degree with a major in studio art, the  
student must complete the seven-course  
foundation program, the requirements  
for an area of specialization and partici-  
pate in senior exhibition.

### Foundation Program

Art 111	Drawing I
Art 115	Two-Dimensional Design
Art 116	Figure Modeling
Art 212	Color Theory
Art 222	Survey of Art: Pre-history Through the Middle Ages
Art 223	Survey of Art: From the Renaissance Through the Modern Age
Art 227	Introduction to Photography

### Areas of Specialization

#### I. Painting

Art 220	Painting I
Art 221	Drawing II
Art 330	Painting II
Art 446	Studio Research

and two art history courses num-  
bered  
300 or above.

#### II. Printmaking

Art 221	Drawing II
Art 228	Printmaking I
Art 338	Printmaking II
Art 446	Studio Research

and two art history courses num-  
bered  
300 or above.

#### III. Sculpture

Art 225	Sculpture I
Art 226	Figure Modeling II
Art 335	Sculpture II
Art 446	Studio Research

and two art history courses numbered  
300 and above.

#### IV. Commercial Design

Art 221	Drawing II
Art 237	Photography II
Art 442	Special Projects with Commercial Design
Art 443	Computer Graphics for Commercial Design
GCO 511	Layout and Design
GCO 512	Typographic Composition

A student is encouraged to take  
the following courses: Internship  
(Art 470-479), Advertising (Business  
332), Writing for Special Audiences  
(Mass Communication 323), Intro-  
duction to Mass Communication  
(Mass Comm 110), Social Psy-  
chology (Psy 224).

### V. Generalist Art Major to be taken by those students who are seeking teaching certification in Art):

Art 119	Ceramics I
Art 220	Painting I
Art 225	Sculpture I
Art 228	Printmaking I

and two art history courses num-  
bered 300 or above. In addition to  
Art Department courses, under the  
generalist major, the student must  
complete the art certification pro-  
gram in the Education Department.

### VI. Photography

Art 337	Photography II
Art 340	Color Photography
Art 341	Large Format View/ Camera Photography
Art 446	Student Research

and two art history courses numbered  
300 or above.

### The B.A. Degree — Art History

To complete a bachelor of arts degree  
with a major in art history, a student  
must take courses in art history, studio  
art, and history and/or religion. A stu-  
dent majoring in art history is advised to  
take a foreign language.

Required of all students:

Art 222	Survey of Art: Pre-History Through the Middle Ages
Art 223	Survey of Art: From Renaissance Through the Modern Age
Art 447	Art History Research

Choose four of the following:

Art 331	20th Century European Art
Art 332	American Art of the 20th Century
Art 333	19th Century European and American Art
Art 334	Art of the Renaissance

Art 336 Art of the Baroque  
 Art 339 Women in Art

Choose two of the following:

Art 111 Drawing I  
 Art 115 Two-dimensional Design  
 Art 116 Figure Modeling I  
 Art 227 Introduction to Photography

Choose two of the following:

History 210 Ancient History  
 History 212 Medieval Europe and its  
 Neighbors  
 History 318 History of Renaissance  
 Thought  
 Religion 113 Old Testament Faith  
 and History  
 Religion 114 New Testament Faith  
 and History  
 Religion 226 Biblical Archaeology

It is furthermore suggested that the student choose electives in other departments that may complement the studies of art history. Among these recommended electives are:

French 412 French Literature of the  
 19th Century  
 English 336 Shakespeare  
 Music 117 Survey of Western Music  
 Music 335 History of Western Music I  
 Music 336 History of Western Music II  
 Theatre 332 History of Theatre I  
 Theatre 333 History of Theatre II

### The BFA degree in sculpture:

The student completes a specified course of study in the Art Department, the Lycoming College distribution requirements, and one of the field specialization apprenticeship programs at the Johnson Atelier in Mercerville, New Jersey.

The Art Department course of study consists of 12 courses in studio and art history: Figure Modeling I and II (Art 116 and 226), Sculpture I and II (Art 225 and 335), Drawing I and II (Art 111 and 221), Introduction to Photography (Art 227), 2-D Design (Art 115), Survey of Art (Art 222 and 223), and two additional courses in Art History (Art 331, 332, 333, 334, 336, 339).

Twelve additional course units are required of the student. The student must meet the requirements of the distribution program within these courses.

The student must also complete one of the field specialization apprenticeships at the Johnson Atelier Technical Institute of Sculpture in Mercerville, New Jersey. This requires the student to be at the Johnson Atelier for a period of between 16 and 23½ months. The student receives eight course units of credit at Lycoming College for successfully completing the field specialization apprenticeship at Johnson Atelier. It is expected that the work for the apprenticeship component will be completed during the summers and the junior year.

Admission to the BFA degree program is on the basis of meeting the admission standards of Lycoming College, and passing a portfolio review and interview by members of the Lycoming College Art Department.

Five minors are being offered by the Art Department. Requirements for each follow: Art History: Art 222, 223 and two advanced art history courses; Commercial Design: Art 111, 115, 212, 223, 511 and 512; Painting: Art 111, 115, 220, 330 and 221 or 223; Photography: Art 111, 212, 223, 227, 337 and 340 or 341; Sculpture: Art 116, 225, 226, 335 and 111, 119 or 445.

### 111 DRAWING I

Study of the human figure with gesture and proportion stressed. Student is made familiar with different drawing techniques and media. Some drawings from nature. Offered in alternate semesters with Drawing II and III.

### 115 TWO-DIMENSIONAL DESIGN

The basic fundamentals found in the two-dimensional arts: line, shape, form, space, color, and composition are taught in relationship to the other two-dimensional arts. Perceptual theories and their relationships to what and why we see what we see in art are discussed with each problem.

### 116 FIGURE MODELING I

Understanding the figure will be approached through learning the basic structures and proportions of the figure. The course is conceived as a three-dimensional drawing class. At least one figure per student will be cast.

### 119 CERAMICS I

Emphasis placed on pottery design as it relates to function of vessels and the design parameters imposed by the characteristics of clay. The techniques of ceramics are taught to encourage expression rather than to dispense merely a technical body of information.

### 212 COLOR THEORY

A study of the physical and emotional aspects of color. Emphasis will be placed on the study of color as an aesthetic agent for the artist. The color theories of Johannes Itten will form the base for this course with some study of the theories of Albert Munsell, Faber Berren, and Wilhelm Ostwald.

### 220 PAINTING I

An introduction of painting techniques and materials. Coordination of color, value, and design within the painting is taught. Some painting from the figure. No limitations as to painting media, subject matter, or style. *Prerequisite: Art 115 or consent of instructor.*

### 221 DRAWING II

Continued study of the human figure. Emphasis is placed on realism and figure-ground coordination with the use of value and design. *Prerequisite: Art 111.*

### 222 SURVEY OF ART: PRE-HISTORY THROUGH THE MIDDLE AGES

A survey of Western architecture, sculpture, and painting. Emphasis is on the interrelation of form and content and on the relatedness of the visual arts to their cultural environment: Paleolithic Art, Near East, Egypt, Greece, Rome, and Medieval Europe.

### 223 SURVEY OF ART: FROM THE RENAISSANCE THROUGH THE MODERN AGE

A survey of Western architecture, sculpture, and painting. Emphasis is on the interrelation of form and content and on the relatedness of the visual arts to their cultural environment: 14th-20th centuries.

### 225 SCULPTURE I

An introduction to the techniques, materials, and ideas of sculpture. Clay, plaster, wax, wood, and other materials will be used. The course will be concerned with ideas about sculpture as expression, and with giving material form to ideas.

### 226 FIGURE MODELING II

Will exploit the structures and understandings learned in Figure Modeling I to produce larger, more complex figurative works. There will be a requirement to cast one of the works in plaster. *Prerequisites: Art 116 and consent of instructor.*

- 227 **INTRODUCTION TO PHOTOGRAPHY**  
Objectives of the course are to develop technical skills in the use of photographic equipment (cameras, films, darkroom, printmaker) and to develop sensitivity in the areas of composition, form, light, picture quality, etc. Each student must own or have access to a 35mm camera.
- 228 **PRINTMAKING I**  
Introduction to the techniques of silkscreen, intaglio, monotype, and lithography printing. One edition of at least six prints must be completed in each area. *Prerequisite: Art 111 or 115 or consent of instructor.*
- 229 **CERAMICS II**  
Continuation of Ceramics I. Emphasis on use of the wheel and technical aspects such as glaze making and kiln firing. *Prerequisite: Art 119.*
- 330 **PAINTING II**  
Emphasis is placed on individual style and technique. Artists and movements in art are studied. No limitations as to painting media, subject matter, or style. *Prerequisite: Art 220.*
- 331 **20TH CENTURY EUROPEAN ART**  
Stylistic developments in Europe from 1880 to the present, including Cubism, Fauvism, Expressionism, Dada, and Surrealism. Picasso, Matisse, Kandinsky, and Mondrian are among the major artists studied.
- 332 **AMERICAN ART OF THE 20TH CENTURY**  
The art of the United States from about 1880 to the present, with emphasis on the innovations of Americans in painting, sculpture and architecture, and on the meaning and historical roots of contemporary art.
- 333 **19TH CENTURY EUROPEAN AND AMERICAN ART**  
The art of Western Europe and the United States from 1780-1900, with emphasis on painting in France. Those artists to be studied include David and Goya, Delacroix, Courbet, The Impressionists, Turner, Homer, Cole and Eakins.
- 334 **ART OF THE RENAISSANCE**  
The art of Italy and Northern Europe from 1330-1530, with emphasis on the painters Giotto, Masaccio, Leonardo da Vinci, Raphael, Titian, Van Eyck, and Dürer, the sculptors Ghiberti, Donatello and Michelangelo, and the architects Brunelleschi and Alberti.
- 335 **SCULPTURE II**  
A continuation of Sculpture I (Art 225). Emphasis is on advanced technical process.
- Casting of bronze and aluminum sculpture will be done in the school foundry. *Prerequisite: Art 225.*
- 336 **ART OF THE BAROQUE**  
Seventeenth-century painting and sculpture in Italy and the Netherlands with emphasis on Bernini, Poussin, Rubens, and Rembrandt, and with special attention given to the expressive, narrative, painterly, and tactile styles present in their art.
- 337 **PHOTOGRAPHY II**  
To extend the skills developed in Photography I (Art 227) by continued growth in technical expertise including instruction in the use and capabilities of large format view cameras. Emphasis is placed on conceptual and aesthetic aspects of photography. *Prerequisite: Art 227.*
- 338 **PRINTMAKING II**  
Further study of the techniques of silkscreen, intaglio, monotype, and lithography printing with emphasis on multi plate and viscosity printing. Two editions of at least six prints must be completed in each of two areas. *Prerequisite: Art 228.*
- 339 **WOMEN IN ART**  
A survey of women artists from a variety of viewpoints — aesthetic, historical, social, political and economic — which seeks to understand and integrate the contributions of women artists into the mainstream of the history of art. *No prerequisite.*
- 340 **COLOR PHOTOGRAPHY**  
Study of the techniques and aesthetics of color photography. Work will be directed towards the use of both color negative and color slide processes. Students will be required to learn the special requirements of photographing in both indoor and outdoor light conditions. A portfolio of color prints will be produced. *Prerequisites: Art 227 and 337.*
- 341 **LARGE FORMAT VIEW CAMERA PHOTOGRAPHY**  
Study of the techniques and aesthetics of the large format view camera in Fine Art Photography. Emphasis will be placed on the experience of using the large format view camera. Students will be encouraged to explore alternative photographic processes such as platinum printing, the gum bichromate process, etc. using the large negative produced. *Prerequisites: Art 227 and 337.*
- 440 **PAINTING III**  
Professional quality is stressed. There is some experimentation with new painting techniques and styles.
- 441 **DRAWING III**  
Continued study of human figure, individual style, and professional control of drawing techniques and media are now emphasized.
- 442 **SPECIAL PROJECT IN COMMERCIAL DESIGN**  
Concentrated research, preparation and execution of a series of projects in commercial design utilizing the traditional studio tools including airbrush, water-based mediums, colored pencils, and pen and ink. The following skills are involved: illustration, paste-up, typesetting, overlays, lettering and layout. *Prerequisite: GCO 511, 512 or consent of instructor.*
- 443 **COMPUTER GRAPHICS FOR COMMERCIAL DESIGN**  
Concentrated research, preparation and execution of a series of projects in commercial design utilizing computer imaging. Students will learn to generate original moving and still images in color using existing graphic creation software and peripheral devices, such as digitalizing cameras, digitalizing drawing devices, printers, and slide producers. *Prerequisite: GCO 511, 512 or consent of instructor.*
- 445 **SCULPTURE III**  
In Sculpture III the student is expected to produce a series of sculptures that follow a conceptual and technical line of development. *Prerequisites: Art 116, 225, and 335.*
- 446 **STUDIO RESEARCH**  
Independent research in an elective studio area, conducted under the supervision of the appropriate faculty member, includes creation of work which may be incorporated in the senior group exhibition. Student works in private studio assigned by the department.
- 447 **ART HISTORY RESEARCH**  
Independent research, conducted under the supervision of the appropriate faculty member, includes the research and writing of a thesis, to be presented to a committee of Art Department faculty.
- 470-479 **INTERNSHIP (See index)**  
Commercial design, interior design, and photography programs in local businesses, and museum work at the Lycoming County Historical Museum.
- N80-N89 **INDEPENDENT STUDY (See index)**  
Recent studies in anatomy. Aspects of the art nouveau, lithography, photography, pottery, problems in illustration, and watercolor.
- 490-491 **INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See index)**

## Graphic Arts

Through special arrangements, the following courses offered at Williamsport Area Community College are available *only* to Art majors in Commercial Design and Mass Communication majors (GCO511 only). The WACC courses are taken as part of the student's schedule and are listed with Lycoming's offerings during registration periods.

### 511 LAYOUT AND DESIGN

Analysis of materials, tools, and techniques used in preparation of copy for reproduction: paste-up and color separation overlays. 3 cr.

### 512 TYPOGRAPHIC COMPOSITION

Fundamentals of typesetting. Theory and practice in the care and use of composing machines, both hot (mechanical) and cold (photo). 3 cr.

## ASTRONOMY AND PHYSICS

Associate Professor: Erickson

(Chairperson)

Assistant Professor: Fisher

The department offers two majors. The major in astronomy is specifically designed to train students in the field of planetarium education; it also may serve as a basis for earning state certification as a secondary school teacher of general science. The major in physics can prepare students for graduate work in physics, astronomy, and related physical sciences, for the cooperative program in engineering, for state certification as secondary school teachers of physics, or for technical positions in industry.

## Astronomy

The major in astronomy requires Astronomy 111, either 112 or 113, 230, 344, 445 and 446; Physics 225-226; Mathematics 128 and 129; and Chemistry 110 and 111 or 330-331. Juniors and seniors majoring in astronomy are also required to register for four semesters of Astronomy 349 & 449 (non-credit colloquia). In addition, the following cognate courses are recommended: Physics 229 and 333; Philosophy 223 and 333; and Art 227.

### 104 FIELD GEOLOGY

A methods course introducing the field techniques needed to study the geology of an area. *May or summer term only.*

### 105 HISTORY OF ASTRONOMY

A comprehensive view of the evolution of astronomical thought from ancient Greece to the present, emphasizing the impact that astronomical discoveries and the conquest of space have had on Western culture. *May or summer term only.*

### 107 OBSERVATIONAL ASTRONOMY

A methods course providing the opportunity to make a variety of astronomical observations, both visually and photographically, with and without telescopes. The planetarium is used to familiarize the student with the sky at various times during the year and from different locations on earth. *May or summer term only.*

### 101 PRINCIPLES OF ASTRONOMY (B)

### 111 PRINCIPLES OF ASTRONOMY (A)

A summary of current concepts of the universe from the solar system to distant galaxies. Describes the techniques and instruments used in astronomical research. Presents not only what is reasonably well known about the universe, but also considers some of the major unsolved problems. *Astronomy 101 and 111 share the same three hours of lecture and two hours of laboratory each week. 111 has one additional hour each week for more advanced mathematical treatment of the material. Credit may not be earned for both 101 and 111. Corequisite for 111: Mathematics 107 or consent of instructor.*

### 102 EARTH SCIENCE (B)

### 112 EARTH SCIENCE (A)

A study of the physical processes that continually affect the planet Earth, shaping our environment. Describes how past events and lifeforms can be reconstructed from preserved evidence to reveal the history of our planet from its origin to the present. Emphasizes the ways in which geology, meteorology, and oceanography interrelate with man and the environment. *Astronomy 102 and 112 share the same three hours of lecture and two hours of laboratory each week. 112 has one additional hour each week for more advanced mathematical treatment of the material. Credit may not be earned for both 102 and 112. Corequisite for 112: Mathematics 107 or consent of instructor. Alternate years.*

### 103 METEOROLOGY (B)

### 113 METEOROLOGY (A)

The general properties of the atmosphere and their measurements will be discussed in terms of basic physical laws. The large scale processes that create a suitable climate for

life on Earth are discussed as well as the smaller scale processes that must be taken into account in scientific weather prediction. *Astronomy 103 and 113 share the same three hours of lecture and two hours of laboratory each week. 113 has one additional hour each week for more advanced mathematical treatment of the material. Credit may not be earned for both 103 and 113. Corequisite for 113: Mathematics 107. Alternate years.*

### 114 MANNED SPACE FLIGHT I

Traces the beginnings of rocketry and spaceflight capability from Sputnik (1957) through the conclusion of the Apollo moon landings (1972). Extensive use of NASA video and other audio-visual aids. Examination of scientific, engineering and political motivations. *When taken in May Term, must be scheduled with Astronomy 115. Not for distribution. Alternate years. Half unit.*

### 115 MANNED SPACE FLIGHT II

Examines manned spaceflight from Skylab missions (1973-74) through Apollo-Soyuz Test Project, early Space shuttle missions, to current U.S. and Soviet space efforts. Extensive use of NASA video. Examination of scientific, engineering, and political motivations. *When taken in May Term, must be scheduled with Astronomy 114. Not for distribution. Alternate years. Half unit.*

### 230 PLANETARIUM TECHNIQUES

A methods course covering major aspects of planetarium programming, operation and maintenance. Students are required to prepare and present a planetarium show. Upon successfully completing the course, students are eligible to become planetarium assistants. *Three hours of lecture and demonstration and three hours of practical training per week. Prerequisites: Astronomy 101 or 111 (Principles of Astronomy) or consent of instructor. Alternate years.*

### 344 RELATIVITY AND COSMOLOGY

A detailed presentation of the special theory of relativity, and a short view of the general theory and its classical proofs. Man's concepts of the universe, with particular attention to alternative modern cosmological models. Discussion of the Cosmological Principle, its rationale, and its implications. *Four hours of lecture per week. Prerequisites: Astronomy 111 (Principles of Astronomy A) and Physics 225 (Introductory Physics with Calculus I). Alternate years. Cross-listed as Physics 344.*

### 445 STELLAR EVOLUTION

The physical principles governing the internal structure and external appearance of stars. Mechanisms of energy generation and

transport within stars. The evolution of stars from initial formation to final stages. The creation of chemical elements by nucleosynthesis. *Four hours of lecture per week. Prerequisites: Astronomy 111 (Principles of Astronomy A) and Physics 226 (Introductory Physics with Calculus II). Alternate years.*

#### 446 STELLAR DYNAMICS AND GALACTIC STRUCTURE

The motion of objects in gravitational fields. Introduction to the n-body problem. The relation between stellar motions and the galactic potential. The large scale structure of galaxies in general and of the Milky Way Galaxy in particular. *Four hours of lecture per week. Prerequisites: Astronomy 111 (Principles of Astronomy A) and Physics 225 (Introductory Physics with Calculus I). Alternate years.*

#### 349 & 449 ASTRONOMY AND PHYSICS COLLOQUIA

This non-credit but required course for juniors and seniors majoring in astronomy and physics offers students a chance to meet and hear active scientists in astronomy, physics, and related scientific areas talk about their own research or professional activities. In addition, majors in astronomy and physics must present two lectures, one given during the junior year and one given during the senior year, on the results of a literature survey or on individual research. Students majoring in this department are required to attend four semesters during the junior and senior years. A letter grade will be given when the student gives a lecture. Otherwise the grade will be P/F. Students in the Cooperative Program in Liberal Arts and Engineering are required to attend two semesters and present one lecture during their junior year. Non-credit course. *One hour per week. Cross-listed as Physics 349 & 449.*

#### 470-479 INTERNSHIP (See index)

#### N80-N89 INDEPENDENT STUDY (See index)

Independent studies may be undertaken in most areas of astronomy.

#### 490-491 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See index)

### Physics

The major in physics requires Physics 225-226, 331, 332, and four additional physics courses numbered 229 and above. Up to two courses chosen from Astronomy 111, 112, 113, 445, and 446 may substitute for two of the four physics

electives. Also required are Mathematics 128 and 129, and Chemistry 110 and 111 or 330-331. Juniors and seniors majoring in physics are required to register for four semesters of Physics 349 & 449 (non-credit colloquia). In addition, the following cognate courses are recommended: Mathematics 231 and 238 (these are required for the cooperative engineering program and by most graduate schools); Computer Science 125 (required for the cooperative engineering program); and Philosophy 223 and 333. A foreign language is recommended for students planning on graduate study.

#### 106 ENERGY ALTERNATIVES

A physicist's definition of work, energy, and power. The various energy sources available for use, such as fossil fuels, nuclear fission and fusion, hydro, solar, wind, and geothermal. The advantages and disadvantages of each energy conversion method, including availability, efficiency, and environmental effects. Present areas of energy research and possible future developments. Projections of possible future energy demands. Exercises and experiments in energy collection, conversion, and utilization. *May or summer term only.*

#### 125-126 PHYSICS WITH LIFE SCIENCE APPLICATIONS

The basic concepts, principles, and laws of physics are presented in this noncalculus introductory physics course. Topics include mechanics, elastic properties of matter, fluids, thermodynamics, electricity and magnetism, waves, optics, and radioactivity. Many of the examples and problems used to illustrate the physics are selected from the life sciences. *Three hours of lecture, one hour of recitation, and one three-hour laboratory per week. Prerequisite: Mathematics 107 or consent of instructor. (Credit may not be earned for both 125 and 225 or for both 126 and 226.)*

#### 225-226 INTRODUCTORY PHYSICS WITH CALCULUS

A mathematically rigorous introduction to physics designed for majors in physics, astronomy, chemistry, and mathematics. Topics include mechanics, thermodynamics, electricity and magnetism, waves, optics, and modern physics. *Five hours of lecture and recitation and one three-hour laboratory per week. Corequisite: Mathematics 128-129 (Calculus I and II). (Credit may not be earned for both 125 and 225 or for both 126 and 226.)*

#### 229 ELECTRONICS

D.C. and A.C. circuit and network theory, active devices such as transistors, operational amplifiers, integrated circuits, and introduction to digital electronics will be covered. *Three lectures and two two-hour laboratory sessions per week. Prerequisites: Physics 126 or 226, and Mathematics 109 or 128 or consent of instructor. Alternate years.*

#### 331 MECHANICS

Kinematics and dynamics of single particles and systems of particles. Rigid bodies. Introduction to the mechanics of continuous media. Moving reference frames. Lagrangian mechanics. *Four hours of lecture and three hours of laboratory per week. Prerequisites: Physics 225 (Introductory Physics with Calculus I) and Mathematics 129 (Calculus II).*

#### 332 ELECTRICITY AND MAGNETISM

The electromagnetic field, electrical potential, magnetic field, and electric and magnetic properties of matter. Electric circuits. Maxwell's equations. Laboratory includes electronics as well as classical electricity and magnetism. *Four hours of lecture and three hours of laboratory per week. Prerequisite: Physics 226 (Introductory Physics with Calculus II).*

#### 333 OPTICS

Geometrical optics, optical systems, physical optics, interference, Fraunhofer and Fresnel diffraction, and coherence and lasers will be covered. *Three hours of lecture and three hours of laboratory per week. Prerequisites: Physics 126 or 226, and Mathematics 109 or 128 or consent of instructor. Alternate years.*

#### 336 MATHEMATICAL METHODS OF PHYSICS

Solution of ordinary linear differential equations using power and Laplace transforms, nonlinear differential and coupled differential equations, Fourier analysis using both trigonometric and complex exponential functions, complex variables, eigenvalue problems, infinite dimensional vector spaces, partial differential equations, boundary value problem solutions to the wave equation, heat flow equation, and Laplace's equation. *Prerequisites: Math 231 and 238. Alternate years.*

#### 337 THERMODYNAMICS AND STATISTICAL MECHANICS

Classical thermodynamics will be presented, showing that the macroscopic properties of a system can be specified without a knowledge of the microscopic properties of the constituents of the system. Then statistical mechanics will be developed, showing that these same macroscopic properties are determined



by the microscopic properties. *Four hours of lecture and recitation per week. Prerequisites: Physics 226 (Introductory Physics with Calculus II) and Mathematics 129 (Calculus II). Alternate years.*

### 338 ATOMIC AND MOLECULAR PHYSICS

The development of the principles and methods of quantum mechanics from the earliest evidence of quantization. Structure and spectra of atoms and molecules. Extension of quantum theory to the solid state. *Four hours of lecture and recitation and one three-hour laboratory per week. Prerequisite: Physics 226 (Introductory Physics with Calculus II) and Mathematics 129 (Calculus II). Alternate years.*

### 344 RELATIVITY AND COSMOLOGY

A detailed presentation of the special theory of relativity, and a short view of the general theory and its classical proofs. Man's concepts of the universe, with particular attention to alternative modern cosmological models. Discussion of the Cosmological Principle, its rationale, and its implications. *Four hours of lecture per week. Prerequisites: Astronomy 111 (Principles of Astronomy A) and Physics 225 (Introductory Physics with Calculus I). Alternate years. Cross-listed as Astronomy 344.*

### 439 INTRODUCTION TO QUANTUM MECHANICS

Basic concepts and formulation of quantum theory. The free particle, the simple harmonic oscillator, the hydrogen atom, and central force problems will be discussed. Both time-independent and time-dependent perturbation theory will be covered. *Four hours of lecture and recitation. Prerequisite: either Physics 226 (Introductory Physics with Calculus II) or Chemistry 331 (Physical Chemistry II), and Mathematics 231 (Differential Equations). Cross-listed as Chemistry 439.*

### 447 NUCLEAR AND PARTICLE PHYSICS

The course will consider properties of nuclei, nuclear models, radioactivity, nuclear reactions (including fission and fusion), and properties of elementary particles. The interactions of nuclear particles with matter and the detection of nuclear particles will be covered. It will be shown how observed phenomena lead to theories on the nature of fundamental interactions, how these forces act at the smallest measurable distances, and what is expected to occur at even smaller distances. *Four hours of lecture and recitation and two hours of laboratory per week. Prerequisites: either Physics 226 (Introductory Physics with Calculus II) or Physics 126 (Physics with Life Science Applications II), Mathematics 129, and either Physics 338*

*(Atomic and Molecular Physics) or Chemistry 110. Alternate years.*

### 349 & 449 ASTRONOMY AND PHYSICS COLLOQUIA

This non-credit but required course for juniors and seniors majoring in astronomy and physics offers students a chance to meet and hear active scientists in astronomy, physics, and related scientific areas talk about their own research or professional activities. In addition, majors in astronomy and physics must present two lectures, one given during the junior year and one given during the senior year, on the results of a literature survey or on individual research. Students majoring in this department are required to attend four semesters during the junior and senior years. A letter grade will be given when the student gives a lecture. Otherwise the grade will be P/F. Students in the Cooperative Program in Liberal Arts and Engineering are required to attend two semesters and present one lecture during their junior year. Non-credit course. *One hour per week. Cross-listed as Astronomy 349 & 449.*

### 470-479 INTERNSHIP (See index)

Interns in physics work off campus under the supervision of professional physicists employed by local industries or hospitals.

### N80-N89 INDEPENDENT STUDY (See index)

Independent studies may be undertaken in most areas of physics.

### 490-491 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See index)

## BIOLOGY

Professor: Angstadt  
(Chairperson)

Associate Professor: Diehl, Gabriel,  
Zaccaria, Zimmerman

Assistant Professor: Pottmeyer

A major consists of eight biology courses, including 110-111, 221, 222, 223, 224, and 225. In addition, juniors and seniors majoring in Biology are required to register for Biology 349/449 (non-credit colloquium) during all semesters on campus. With departmental consent, Biology 226 may be substituted for Biology 221. Only two courses numbered below 200 may count toward the major. Departmental internships cannot

be used to fulfill the eighth required course. In addition, three units of chemistry and two units of mathematical science are required. The chemistry requirement must include at least one unit of organic chemistry chosen from Chemistry 115, 220, or 221. The mathematical science courses must be chosen from Computer Science 125 and Mathematics 103, 107, 109, 128 or above. Certain specific exceptions to the core program will be made for three-year students enrolled in cooperative programs. Such exceptions are noted under the particular cooperative program described in the Academic Program chapter of the catalog. Students interested in these programs should contact the program director before finalizing their individual programs. Credit may not be earned for both Biology 101 and 110 or for both Biology 102 and 111. Consent of instructor may replace Biology 110-111 as a prerequisite for all biology courses.

A minor in *Biology* requires the completion of four upper-level (200's or higher) courses, with their appropriate prerequisites. At least two of these must be from the 200's series of courses. A minor with a special name (e.g., Environmental Science) may be designed by an individual.

### 101-102 PRINCIPLES OF BIOLOGY

An investigation of biological principles, including ecological systems, form and function in selected representative organisms (especially man), cell theory, molecular biology, reproduction, inheritance, adaptation, and evolution. The course is designed primarily for students not planning to major in the biological sciences. *Three hours of lecture and one two-hour laboratory per week.*

### 110-111 INTRODUCTION TO BIOLOGY

An introduction to the study of biology designed for students planning to major in the biological sciences. Major topics considered include the origin of life, cellular respiration and photosynthesis, genetics, development, anatomy and physiology, ecology, behavior, and evolution. *Three hours of lecture and one three-hour laboratory per week.*

### 113-114 HUMAN ANATOMY AND PHYSIOLOGY

Using the organ-systems approach, the



- course is an introduction to the human body — its anatomy, physiology, and normal development — with particular attention to structure and function at all levels of its biological organization (molecular through organismal). *Three hours of lecture, one hour of discussion, and one three-hour laboratory per week. Prerequisite: Chemistry 115 or Chemistry 220 or consent of instructor.*
- 221 **MICROBIOLOGY**  
A study of microorganisms. Emphasis is given to the identification and physiology of microorganisms as well as to their role in disease, their economic importance, and industrial applications. *Three hours of lecture and two two-hour laboratory periods per week. Prerequisite: Biology 110-111. Not open to students who have received credit for Biology 226.*
- 222 **GENETICS**  
A general consideration of the principles governing inheritance, including treatment of classical, molecular, cytological, physiological, microbial, human, and population genetics. *Three hours of lecture and two two-hour laboratory periods per week. Prerequisite: Biology 110-111.*
- 223 **ANIMAL PHYSIOLOGY**  
The mechanisms and functions of animal systems, including the autonomic, endocrine, digestive, cardio-vascular, respiratory, renal, nervous, and reproductive systems. Mammalian physiology is stressed. *Three hours of lecture and one three-hour laboratory per week. Prerequisite: Biology 110-111.*
- 224 **ECOLOGY**  
The study of the principles of ecology with emphasis on the role of chemical, physical, and biological factors affecting the distribution and succession of plant and animal populations and communities. Included will be field studies of local habitats as well as laboratory experimentation. *Two hours of lecture and one four-hour laboratory per week. Prerequisite: Biology 110-111.*
- 225 **PLANT SCIENCES**  
A survey of the structure, development, function, classification, and use of plants and related organisms. The study will comprise four general topic areas: form, including morphology and anatomy of plants in growth and reproduction; function, concentrating on nutrition and metabolism peculiar to photosynthetic organisms; classification systems and plant identification, and human uses of plants. *Three hours of lecture and one three-hour laboratory per week. Prerequisite: Biology 110-111.*
- 226 **MICROBIOLOGY FOR THE HEALTH SCIENCES**  
A study of microorganisms with emphasis given to their taxonomy and their role in various aspects of human infectious disease. Mechanisms for treating and preventing infectious diseases will be presented. Laboratory to include diagnostic culture procedures, antibiotic sensitivity testing, serology, anaerobic techniques and a study of hemolytic reactions. *Three hours of lecture and four hours of laboratory per week. Prerequisites: one year of introductory level biology, one year of chemistry or consent of instructor. Not open to students who have received credit for Biology 221.*
- 328 **AQUATIC BIOLOGY**  
A field-oriented course dealing with freshwater ecosystems. Studies will include a survey of the plankton, benthos, and fish — as well as the physical and chemical characteristics of water that influence their distribution. Several local field trips and a one-week trip to a field station will familiarize students with the diversity of habitats and the techniques of limnologists. *Alternative May terms. Prerequisites: Biology 110-111.*
- 329 **TROPICAL MARINE BIOLOGY**  
A field oriented course where students study the creatures of the fringing reefs, barrier reefs, lagoons, turtlegrass beds and mangrove swamps at a tropical marine laboratory. Studies will include survey of plankton, invertebrates, and fish as well as the physical and chemical characteristics that influence their distribution. *Prerequisite: Biology 110-111. Alternate May terms.*
- 330 **COMPARATIVE ANATOMY OF VERTEBRATES**  
Detailed examination of the origins, structure, and functions of the principal organs of the vertebrates. Special attention is given to the progressive modification of organs from lower to higher vertebrates. *Three hours of lecture and one four-hour laboratory per week. Prerequisite: Biology 110-111. Alternate years.*
- 334 **INVERTEBRATE ZOOLOGY**  
Comparative study of the invertebrate phyla with emphasis on phylogeny, physiology, morphology, and ecology. *Two three-hour lecture/laboratory periods per week. Prerequisite: Biology 110-111. Alternate years.*
- 335 **CELLULAR PHYSIOLOGY**  
Physicochemical background of cellular function: functions of membrane systems and organelles; metabolic pathways; biochemical and cellular bases of growth, development and responses of organisms. *Three hours of lecture and one three-hour laboratory per week. Prerequisites: Biology 110-111 and a year of chemistry. Alternate years.*
- 336 **EVOLUTION**  
The study of the origin and modification of life on earth. Topics discussed include molecular evolution, population genetics, gene flow, natural selection, sexual selection, kin selection, neutral theory, extinction, co-evolution, and the evolution of man. *Four hours of lecture per week. Prerequisite: Biology 110-111 or consent of the instructor. Alternate years.*
- 339 **MEDICAL GENETICS**  
This course is concerned with the relationships of heredity to disease. Discussions will focus on topics such as chromosomal abnormalities, metabolic variation and disease, somatic cell genetics, genetic screening, and immunogenetics. Laboratory exercises will offer practical experiences in genetic diagnostic techniques. *Prerequisite: Biology 101-102 or 110-111. May term only.*
- 342 **ANIMAL BEHAVIOR**  
A study of the causation, function, evolution, and biological significance of animal behaviors in their normal environment and social contexts. *Three hours of lecture and one four-hour laboratory each week. Prerequisite: Biology 110-111. Alternate years.*
- 346 **VIROLOGY**  
An introduction to the study of viruses. The course will cover virus anatomy and reproduction, diseases caused by viruses, modern treatments of viral infections and viral vaccines produced by recombinant DNA and other technologies. Course content will also include a description of how viruses are used as tools for genetic engineering and for studying cellular processes like membrane signal transduction, regulation of genetic expression and oncogenesis (cancer). *Four hours of lecture per week. Prerequisite: Biology 110-111 or consent of instructor. Alternate years.*
- 347 **IMMUNOLOGY**  
The course introduces concepts concerning how pathogens cause disease and host defense mechanisms against infectious diseases. Characterization of and relationships between antigens, haptens, and antibodies are presented. Serological assays will include: agglutination precipitations, immunofluorescence, immunoelectrophoresis, and complement fixation. Other topics are: immediate and delayed hypersensitivities (i.e. allergies such as hay fever and poison ivy), immunological renal diseases, immunohematology (blood groups, etc.)

hybridome technology, the chemistry and function of complement autoimmunity, and organ graft rejection phenomena. *Three hours of lecture, one three-hour laboratory, and one hour of arranged work per week. Prerequisite: Biology 110-111. Alternate years.*

#### 403 FIELD BIOLOGY FOR TEACHERS

A methods course for students preparing to teach biology. Sources and methods of collecting and preserving various plant and animal materials. *Summer term only.*

#### 431 HISTOLOGY

A study of the basic body tissues and the microscopic anatomy of the organs and structures of the body which are formed from them. Focus is on normal human histology. *Three hours of lecture and one four-hour laboratory per week. Prerequisite: Biology 110-111. Alternate years.*

#### 433 ECONOMIC AND SYSTEMATIC BOTANY

Structure and classification of plants with emphasis on those species, particularly food and drug plants, having significance for human affairs. *Three hours of lecture and one three-hour laboratory per week. Prerequisites: Biology 110-111, Biology 225. Alternate years.*

#### 440 PARASITOLOGY AND MEDICAL ENTOMOLOGY

The biology of parasites and parasitism. Studies on the major groups of animal parasites and anthropod vectors of disease will involve taxonomy and life cycles. Emphasis will be made on parasites of medical and veterinary importance. *Three hours of lecture and one three-hour laboratory per week. Prerequisite: Biology 110-111. Alternate years.*

#### 441 VERTEBRATE EMBRYOLOGY

A study of the development of vertebrates from fertilization to the fully formed fetus. Particular attention is given to the chick and human as representative organisms. *Two three-hour lecture/laboratory periods per week. Prerequisite: Biology 110-111. Alternate years.*

#### 444 BIOCHEMISTRY

Emphasis is given to the metabolism of carbohydrates, lipids, amino acids, proteins, and nucleic acids; integration of metabolism; and biochemical control mechanisms, including allosteric control, induction, repression signal transduction as well as the various types of of inhibitive control mechanisms. *Three hours of lecture, one three-hour laboratory and one hour of arranged work per week. Prerequisite: Chemistry 220-221 or Chemistry 115, or*

*consent of instructor. Cross-listed as Chemistry 444. Alternate years.*

#### 445 RADIATION BIOLOGY

A study of the effects of ionizing and non-ionizing radiations on cells, tissues and organisms. Consideration will be given to repair mechanisms and how repair deficiencies elucidate the nature of radiation damage. *Three hours of lecture and one three-hour laboratory per week. Prerequisites: Biology 110-111, one year of chemistry. Alternate years.*

#### 446 PLANT ANATOMY AND PHYSIOLOGY

A study of plant physiology as a function of plant anatomy. Metabolic relationships and environmental factors will be examined from a background of the structure and development of cells, tissues, organs, and whole plants. *Three hours of lecture and one three-hour laboratory per week. Prerequisites: Biology 110-111, Biology 225. Alternate years.*

#### 448 ENDOCRINOLOGY

This course begins with a survey of the role of the endocrine hormones in the integration of body functions. This is followed by a study of the control of hormone synthesis and release, and a consideration of the mechanisms by which hormones accomplish their effects on target organs. *Two three-hour lecture/laboratory periods per week. Prerequisite: Biology 110-111. Alternate years.*

#### 349 & 449 BIOLOGY COLLOQUIUM

This course offers the student a chance to become familiar with research in the Biological Sciences using techniques such as meeting and talking with active researchers, reading and critically analyzing the current literature, and discussing the ideas and methods shaping Biology. Students will be required to read and analyze scientific papers, actively participate in discussions. Students majoring in this department are required to *enroll during all semesters spent on campus in the junior and senior years.* The grade will be P/F. *Non-credit course. One hour per week. Prerequisites: Biology majors with junior or senior class standing.*

#### 470-479 INTERNSHIP (See index)

Recent samples of internships in the department include ones with the Department of Environmental Resources, nuclear medicine or rehabilitative therapies at a local hospital.

#### N80-N89 INDEPENDENT STUDY (See index)

Departmental studies are experimentally oriented and may entail either lab or field work.

#### 490-491 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See index)

Examples of recent honors projects have involved stream analysis, gypsy moth research, drug synthesis and testing.

## BUSINESS ADMINISTRATION

Associate Professor: Weaver  
(Chairperson)

Assistant Professor: Sterngold

Instructor: Henninger

Lecturers: Larrabee, Wagner

To graduate with a major in business administration, a student must complete one of two tracks:

### Track I — Business Management

This track is designed to train students in the functions of today's profit and non-profit organizations. The program provides a well-balanced preparation for a wide variety of careers, including general administration, personnel administration, commercial banking, investments and portfolio management, security analysis, corporate financial management, general marketing, sales, product management, advertising, retail merchandising, and production and manufacturing management.

Required courses are Business 110, 111, 223, 228-229, 338, 339, 440, 441; Mathematics 103. Business 332 or 443 may be substituted for Business 229, and Business 340 may be substituted for Business 339. *Accounting 110 may be substituted for Business 110 if the student is transferring into the business administration major, but duplicate credit will not be granted.*

Majors are encouraged to take Business 335, 336; Computer Science 108; Economics 110, 111; Mass Communication 211, 323; Mathematics 112; Philosophy 216; and Psychology 225. Majors also are encouraged to take a foreign language. The additional elective offerings are intended to add depth in the areas of finance, marketing, and management.

## Track II — Management Science

This track is designed to train students in the quantitative aspects of business administration. It provides excellent undergraduate preparation for graduate study in management science, operations research, and quantitative business administration. The program also provides a solid preparation for careers in production control, systems analysis, research, forecasting, industrial and technical sales and any of the functional areas of business where quantitative training would be an added qualification.

Required courses are Business 110, 111, 223, 338; 339, 446; Economics 110, 111, 441; Mathematics 103, 112, 128, 129, 338; and Computer Science 108. *Accounting 110 may be substituted for Business 110 if the student is transferring into the business administration major.*

## Minors

The Business Administration Department offers two minors. The following courses are required to complete a minor in *Marketing*: Business 228, 229, 332, 445, and 443 or 448. A minor in *Finance* requires the completion of Business 338, 339, 340, and Economics 220, 441, or Accounting 225.

### 110 FINANCIAL ACCOUNTING

An introduction to the art of measuring, communicating, and interpreting financial activity. Recording, classifying and summarizing business transactions, the interpretation of accounts, and the preparation of financial statements are studied. *Not open to students who have received credit for Accounting 110.*

### 111 MANAGERIAL ACCOUNTING

An introduction to the various components of managerial accounting. Emphasis is placed on managerial problem solving techniques and the analysis of the results. Accounting systems, costing procedures, cost-volume profit relationships, managerial control processes and the use of computers as aids to decision making are studied. Students will gain hands-on experience with various computer applications of managerial accounting. *Prerequisite: Business 110 or Accounting 110.*

### 223 QUANTITATIVE BUSINESS ANALYSIS

Techniques of quantitative analysis useful in making business decisions. Topics include: decision theory, inventory models, network models, forecasting, and other selected applications. Students will be introduced to computer applications of the quantitative models. *Prerequisite: Mathematics 103 or consent of instructor.*

### 228-229 MARKETING MANAGEMENT

Planning, organization, and control of the distribution activities of the firm, and an analysis and evaluation of the marketing system, its institutions, and processes. Application of marketing principles and the development of strategies for specific marketing problems. Product, channel flow, promotion, and pricing strategies explored. Readings, cases, and games.

### 332 ADVERTISING

Nature, scope, methods, and effects of promotion. Techniques of analysis and control in the use of advertising and publicity as tools in developing business strategy. *Prerequisite: Business 228 or consent of instructor.*

### 335 LEGAL PRINCIPLES I

Lectures and analysis of cases on the nature, sources, and fundamentals of the law in general, and particularly as relating to contracts, agency, and negotiable instruments. *Open only to juniors and seniors.*

### 336 LEGAL PRINCIPLES II

Lectures on the fundamentals and history of the law relating to legal association, real property, wills, and estates. *Open only to juniors and seniors.*

### 338 FINANCIAL MANAGEMENT I

An introduction to working capital management and financial analysis and planning. Topics are covered through readings, cases and problem solving in the areas of decisions on current asset and liability structures, cash and marketable securities, accounts receivables, inventory management and control, spontaneous financing, short-term borrowing, ratio and financial statement analysis, source and use statements, cash flow forecasting, and financial statements forecasting. *Prerequisites: Mathematics 103; Business 110, 111, and 223; or consent of instructor.*

### 339 FINANCIAL MANAGEMENT II

A study of capital asset structure and long-term financial decisions. Topics are covered through readings, cases, and problem solving in the areas of capital budgeting, including risk and required rates of return, leverag-

ing the firm, concepts of capital structures, dividend policy, external financing, term and lease financing, long-term debt, equity securities, convertible securities and warrants. *Prerequisite: Business 338 or consent of instructor.*

### 340 INVESTMENTS

An introduction to the financial sector of the economy and the structure and functions of financial markets and the agencies involved; brokerage houses and stock exchanges; the various types of investments available. Techniques used to evaluate financial securities. Also covered are recent developments in investment theory. *Prerequisite: Business 338 or consent of instructor.*

### 440 MANAGEMENT CONCEPTS

Structural characteristics and functional relationships of a business organization as well as the problems encountered in coordinating the internal resources of a firm. Emphasis on administrative efficiency and procedures.

### 441 BUSINESS POLICIES

Planning, organization, and control of business operations; setting of goals; coordination of resources, development of policies. Analysis of strategic decisions encompassing all areas of a business, and the use and analysis of control measures. Emphasis on both the internal relationship of various elements of production, finance, marketing, and personnel, and the relationship of the business entity to external stimuli. Readings, cases, and games. *Prerequisites: Business 223, 228-229, 338, 339, and 440, or consent of instructor. Seniors only.*

### 442 PERSONNEL MANAGEMENT

An introduction to the managerial problems of recruiting, selecting, training, and retraining the human resources of the firm. Emphasis is placed on the interrelationship of personnel policies with management objectives and philosophies in such areas as fringe benefits, wage and salary policies, union activities, and health and safety.

### 443 RETAIL MANAGEMENT I

Planning, organization, and control of the retailing firm. Competitive strategy development through store location, layout, administration organization, buying, and pricing. Cases, readings, and papers. *Prerequisite: Business 228 or consent of instructor.*

### 445 MARKETING RESEARCH

This is a study of the principles and practices of Marketing Research. The focus is on the development and application of Marketing Research Studies. Topics covered include selection of a research design, project planning and scheduling, data specification and

gathering, quantitative methods to analyze data, interpretation of data, and research report writing. Readings, cases, and research project. *Mathematics 103 and Business 228 or consent of instructor.*

#### 446 PRODUCTION MANAGEMENT

An introduction to the planning, organization, and controlling of operations in a production facility. The course also incorporates quantitative techniques and computer applications used in the production and operations management environment. Topics include capacity and layout planning, facility location analysis, job design and work measurement, production scheduling, materials requirement planning models, and quality controls. Students will engage in the actual design of an inventory status file and MRP system. *Prerequisite: Business 223 or consent of instructor.*

#### 447 CREATIVE ADVERTISING

A workshop concerned with theme, copy, and effective presentation of advertisements for print media, radio, and direct mail. Primarily an exploration of creativity through analysis of works of artists and writers with application to practical advertising, and tailored to the interests of individual students. *May term. Prerequisite: Business 332 or consent of instructor.*

#### 448 SALES SEMINAR

The role of selling in the economy. The art of creative selling; application of theories from the behavioral sciences to selling through the analysis of sales situations and techniques. *Prerequisite: Business 228 or consent of instructor.*

#### 449 MANAGING THE SMALL BUSINESS

How the potential businessman proceeds in establishing, operating, and profiting from a small business operation. Considered and analyzed are such aspects as marketing, managing, financing, promoting, insuring, establishing, developing, and staffing the small retail, wholesale service, and manufacturing firm. *May term. Prerequisite: Business 111, 228, and 338 or consent of instructor. May term.*

#### 470-479 INTERNSHIP (See index)

Typical examples are marketing analysis for a paper products firm, planning a branch store, hotel and real estate management, banking and insurance.

#### N80-N89 INDEPENDENT STUDY (See index)

Examples of recent studies are: the economic impact of a college on a community; a marketing strategy for a local firm entering the consumer market.

#### 490-491 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See index)

A recent project was a study of the evolution of anti-trust legislation in the United States.

## CHEMISTRY

Associate Professor: Franz  
(Chairperson)

Assistant Professor: Berkheimer  
McDonald

Instructor: Wolfskill

A major in chemistry consists of Chemistry 110-111, 220-221, 330-331, 332 and 333; Physics 225-226; Mathematics 128, 129 and one of the following courses: Mathematics 103, 231, 238, 332, or Computer Science 125. Mathematics 231 and 238 and French or German are strongly recommended for students planning on graduate study in chemistry. To be certified in secondary education, chemistry majors must also pass two biology courses numbered 110 or higher.

A minor in *Chemistry* requires completion of four courses numbered 220 or higher; at least one must be taken from each of the following groups: Group A (220-221, 440, 442, 444) and Group B (226 or 332, 330-331, 333, 439, 443). Named minors in specialized areas may be designed by students with departmental approval.

#### 108 CHEMICAL PRINCIPLES

An introduction to the principles of inorganic chemistry. Topics include atomic and molecular structure, nomenclature, gases, solutions, acids and bases, kinetics, equilibrium, oxidation-reduction, and stoichiometry. The approach is primarily descriptive, with illustrations drawn mostly from the health sciences. Along with Chemistry 115, this course is designed for those students who require only two semesters of chemistry, and is not intended for students planning to enroll in chemistry courses numbered 200 or above. *Three hours lecture, one hour discussion, and one three-hour laboratory period each week. Prerequisite: high school algebra or Math 005. Not open for credit to students who have received credit for Chemistry 110.*

#### 110 GENERAL CHEMISTRY I

A quantitative introduction to the concepts and models of chemistry. Topics include stoichiometry, atomic and molecular structure, nomenclature, bonding, thermochemistry, gases, solutions, and chemical reactions. The laboratory introduces the student to methods of separation, purification, and identification of compounds according to their physical properties. This course is designed for students who plan to major in one of the sciences. *Three hours lecture, one hour discussion and one three-hour laboratory period each week. Prerequisite: placement in Chemistry 110 is determined in part by a student's score on the mathematics placement examination. Not open for credit to students who have received credit for Chemistry 108, except by permission of the Chemistry Department.*

#### 111 GENERAL CHEMISTRY II

A continuation of Chemistry 110, with emphasis placed on the foundations of analytical, inorganic, and physical chemistry. Topics include kinetics, general and ionic equilibria, acid-base theory, electrochemistry, thermodynamics, nuclear chemistry, coordination chemistry, and descriptive inorganic chemistry of selected elements. The laboratory treats aspects of quantitative and qualitative inorganic analysis. *Three hours lecture, one hour discussion, and one three-hour laboratory period each week. Prerequisite: Chemistry 110 or consent of the Chemistry Department.*

#### 115 BRIEF ORGANIC CHEMISTRY

A descriptive study of the compounds of carbon. This course will illustrate the principles of organic chemistry with material relevant to students in medical technology, biology, nursing, forestry, education and the humanities. Topics include nomenclature, alkanes, arenes, functional derivatives, amino acids and proteins, carbohydrates and other naturally occurring compounds. This course is designed for students who require only one semester of organic chemistry. *Three hours lecture, one hour discussion, and one four-hour laboratory period each week. Prerequisite: Chemistry 108 or 110. Not open for credit to students who have received credit for Chemistry 220.*

#### 220-221 ORGANIC CHEMISTRY

A systematic study of the compounds of carbon, including both aliphatic and aromatic series. The laboratory work introduces the student to simple fundamental methods of organic synthesis, isolation, and analysis. *Three hours lecture and one four-hour laboratory period each week. Prerequisite: Chemistry 111.*

## 226 CLINICAL ANALYSIS

A presentation of selected wet-chemical and instrumental methods of quantitative analysis with an orientation toward clinical applications in medical technology. Topics include: general methods and calculations; solutions; titrations; photometric analyses (colorimetric, atomic absorption, flame emission); electrochemical methods (ion-selective electrodes, coulometry), automation. *Lecture, recitation, and laboratory daily. Prerequisite: Chemistry 110-111 or consent of instructor. May not be taken for credit following Chemistry 332. May term only.*

## 330-331 PHYSICAL CHEMISTRY

A study of the fundamental principles of theoretical chemistry and their applications. The laboratory work includes techniques in physicochemical measurements. *Three hours lecture and one four-hour laboratory period each week. Prerequisite: Chemistry 111, Mathematics 129, and one year of physics or consent of instructor.*

## 332 ANALYTICAL CHEMISTRY

A study of the fundamental methods of gravimetric, volumetric, and elementary instrumental analysis together with practice in laboratory techniques and calculations of these methods. *Two hours lecture and two three-hour laboratory periods each week. Prerequisite: Chemistry 111 or consent of instructor.*

## 333 ADVANCED INORGANIC CHEMISTRY

A study of modern theories of atomic and molecular structure and their relationship to the chemistry of selected elements and their compounds. *Three hours lecture and one four-hour laboratory period each week. Prerequisite: Chemistry 330, Mathematics 129, and one year of physics or consent of instructor.*

## 439 INTRODUCTION TO QUANTUM MECHANICS

After presenting the origin, basic concepts, and formulation of quantum mechanics with emphasis on its physical meaning, the free particle, simple harmonic oscillator, and central-force problems will be investigated. Both time-independent and time-dependent perturbation theory will be covered. The elegant operator formalism of quantum mechanics will conclude the course. *Four hours of lecture and recitation. Prerequisites: Mathematics 231, either Chemistry 331 or Physics 226, and consent of instructor. Cross-listed as Physics 439.*

## 440 ADVANCED ORGANIC CHEMISTRY

Theory and application of modern synthetic organic chemistry. Topics may include oxidation-reduction processes, carbon-carbon bond forming reactions, functional group

transformations, and multistep syntheses of natural products (antibiotics, antitumor agents, and antiviral agents). *Three hours lecture and one four-hour laboratory period. Prerequisite: Chemistry 221.*

## 442 SPECTROSCOPY AND MOLECULAR STRUCTURE

Theory and application of the identification of organic compounds. Special emphasis will be placed on the utilization of spectroscopic techniques (<sup>1</sup>H-NMR, <sup>13</sup>C-NMR, IR, UV-VIS, and MS). *Three hours lecture and one four-hour laboratory period each week. Prerequisites: Chemistry 221, Chemistry 331, or consent of instructor.*

## 443 ADVANCED ANALYTICAL CHEMISTRY

A study of advanced analytical methods with emphasis on chromatographic, electrochemical, and spectroscopic methods of instrumental analysis. *Three hours lecture and one four-hour laboratory period each week. Prerequisite: Chemistry 331 and 332 or consent of instructor.*

## 444 BIOCHEMISTRY

Emphasis is given to the metabolism of carbohydrates, lipids, amino acids, proteins, and nucleic acids; integration of metabolism; and biochemical control mechanisms, including allosteric control, induction, repression, signal transduction as well as the various types of inhibitive control mechanisms. *Prerequisite: Chemistry 221 or 115 or consent of instructor. Cross-listed as Biology 444.*

## 348 & 448 CHEMISTRY COLLOQUIUM

A seminar in which faculty, students, and invited professional chemists discuss their own research activities or those of others which have appeared in recent chemical literature. *Prerequisite: Three semesters of non-credit Chemistry Colloquium taken during the junior and senior years.*

## 470-479 INTERNSHIP (See index)

The student will ordinarily work under supervision in an industrial laboratory and submit a written report on the project.

## N80-N89 INDEPENDENT STUDY (See index)

The student will ordinarily work on a laboratory research project and will write a thesis on the work.

## 490-491 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See index)

The student will ordinarily work on a laboratory research project with emphasis being on

the student's showing initiative and making a scholarly contribution. A thesis will be written.

## CRIMINAL JUSTICE

Assistant Professor: Strauser  
(Coordinator)

This major is designed to acquaint students with the American criminal justice system and to provide an understanding of the social, psychological, philosophical, and political contexts within which the system of criminal justice functions. Its aim is to develop students' intellectual and scientific skills in raising and attempting to answer important questions about the system of justice and its place in society. The program offers opportunity for intern experience in the field, and prepares for careers in the areas of law enforcement, probation and parole, prisons, and treatment services.

The major has two tracks. Track I prepares for careers in law enforcement. Track II prepares for careers in corrections.

### Track I — Law Enforcement.

The major consists of 10 courses, distributed as follows:

#### A. Professional courses in criminal justice (three courses):

Introduction to the Criminal Justice System (Sociology and Anthropology 115)

Introduction to Law Enforcement (Sociology and Anthropology 223)  
The American Prison System (Sociology and Anthropology 339)

#### B. Courses in the social, psychological, philosophical, and political context of the justice system (seven courses):

Criminology (Sociology and Anthropology 300) and either Juvenile Delinquency (Sociology and Anthropology 221) or Racial and Cultural Minorities (Sociology and Anthropology 334) (two courses)  
Abnormal Psychology (Psychology 116) (one course)  
America as a Civilization (American Studies 200), Afro-American His-

tory (History 230) or United States Social and Intellectual History Since 1877 (History 443) (one course)  
 Law and Society (Political Science 335) and Civil Rights and Liberties (Political Science 331) (two courses)  
 Philosophical Issues in Criminal Justice (Philosophy 218) (one course)

- C. Internship or practicum in law enforcement. (Recommended but not required for the major)

### Track II — Corrections.

The major consists of 10 courses, distributed as follows:

- A. Professional courses in criminal justice (three courses):  
 Introduction to the Criminal Justice System (Sociology and Anthropology 115)  
 The American Prison System (Sociology and Anthropology 339)  
 Introduction to Human Services (Sociology and Anthropology 222)
- B. Courses in the social, psychological, philosophical, and political context of the justice system (seven courses):  
 Criminology (Sociology and Anthropology 300) and either Juvenile Delinquency (Sociology and Anthropology 221) or Racial and Cultural Minorities (Sociology and Anthropology 334) (two courses)  
 Abnormal Psychology (Psychology 116) (one course)  
 America as a Civilization (American Studies 200), Afro-American History (History 230) or United States Social and Intellectual History Since 1877 (History 443) (one course)  
 Law and Society (Political Science 335) and Civil Rights and Liberties (Political Science 331) (two courses)  
 Philosophical Issues in Criminal Justice (Philosophy 218) (One course)
- C. Internship or practicum in corrections. (Recommended but not required for the major). *Prerequisites: Mathematics 103, Psychology 431, and Psychology 239.* These prerequisites may be waived in certain cases by the coordinating committee.

Majors should seek advice concerning course selection from members of the coordinating committee and should note course prerequisites in planning their programs.

A minor in *Criminal Justice* consists of five courses. Required courses include: Soc 115, Introduction to Criminal Justice; and any four other courses in the Criminal Justice major listed above, at least three of which must be numbered 200 or above. To receive credit for a minor in Criminal Justice, a student must maintain a minimum 2.0 cum in courses completed for the minor.

## ECONOMICS

Professor: Opdahl (Chairperson)  
 Assistant Professor: Madresehee

The major has two tracks. Track I is designed for the student whose primary interest lies in business management; Track II is designed to provide a broad understanding of economic theory and its application to economic, social, and business problems. In addition to preparing students for a career in business or government, this track provides an excellent background for graduate or professional studies.

**Track I — Managerial Economics** requires Economics 110, 111, 332, and either 330 or 441; Business 110 and 111 or Accounting 110 and 220; Business 338 and 339, plus two electives from Economics 220, 229, 331, 335, 337, 443, and Business 440. Business 340 (Investments) may be substituted for Business 339 (Financial Management II).

**Track II — Political Economy** requires Economics 110 and 111, 331, 440, 330 or 441, and three other courses in economics. Depending on their academic and career interests, students are encouraged to select a minor in another department such as political science, philosophy, or history.

In addition, the following courses are recommended: all majors — Math 103 and Business 223; majors planning graduate work — Math 112 and 128; Track II majors — Business 110 and 111 or Accounting 110 and 220.

A minor in *Economics* requires the completion of Economics 110 and 111 and three other economics courses numbered 200 or above, or any four economics courses numbered 200 or above.

### 102 CONSUMER ECONOMICS

A course in "family" or "practical" economics, designed to teach students how they and their families can be intelligent consumers: that is, how they can spend, save, and borrow so as to maximize the value they receive for the income they have. Treats subjects such as intelligent shopping; the uses and abuses of credit; investing savings; buying insurance, automobiles, and houses; medical care costs; estates and wills, etc. *Alternate years.*

### 110 PRINCIPLES OF POLITICAL ECONOMY I

Macroeconomics. Deals with problems of the economic system as a whole. What influences the level of national income and employment? What is inflation and why do we have it? What is the role of government in a modern capitalistic system? How does business organize to produce the goods and services we demand? How are the American financial and banking systems organized? What is the nature of American unionism? What are the elements of government finance and fiscal policy?

### 111 PRINCIPLES OF POLITICAL ECONOMY II

This course focuses upon microeconomics and selected current economic problems. It deals with the relatively small units of the economy such as the firm and the family. Analyzes demand and supply. Discusses how business firms decide what and how much to produce and how goods and services are priced in different types of markets. Also considers such problems as economic growth, international trade, poverty, discrimination, ecology, and alternative economic systems.

### 220 MONEY AND BANKING

Covers business fluctuations and monetary and fiscal policy; the financial organization of society; the banking system; credit institutions; capital markets, and international financial relations. *Prerequisite: Economics 110.*

221 COMPARATIVE  
ECONOMIC SYSTEMS

A comparative analysis of the underlying ideologies, the basic institutions, and the performance of selected economic systems. *Alternate years.*

224 URBAN PROBLEMS

The application of economic theory to the study of significant social, political, and economic problems associated with urbanization, including poverty, employment, education, crime, health, housing, land use and the environment, transportation, and public finance. Analysis of solutions offered. *Alternate years.*

225 ENVIRONMENTAL ECONOMICS

A study of the relationship between environmental decay and economic growth, with particular reference to failures of the price and property-rights systems; application of cost/benefit analysis, measures aimed at the creation of an ecologically viable economy.

226 DEVELOPMENT OF LESS  
DEVELOPED COUNTRIES

A study of the theories and problems of capital accumulation, allocation of resources, technological development, growth, planning techniques, and institutions and international relations encountered by the developing nations. *Alternate years.*

229 BUSINESS CYCLES  
AND FORECASTING

An introduction to the nature and history of business fluctuations, the tools used in aggregate analysis, theories that seek to explain the cycle, and techniques used in forecasting economic activity. *Prerequisite: Economics 110 or permission of the instructor. Alternate years.*

330 INTERMEDIATE MICROECONOMICS

An advanced analysis of contemporary theory regarding consumer demand, production costs and theory, profit maximization, market structures, and the determinants of returns to the factors of production. *Prerequisites: Economics 110 and 111. Alternate years.*

331 INTERMEDIATE MACROECONOMICS

An advanced analysis of contemporary theory and practice with regard to business fluctuations, national income accounting, the determination of income and employment levels, and the use of monetary and fiscal policy. *Prerequisites: Economics 110 and 111. Alternate years.*

332 GOVERNMENT AND THE ECONOMY

An analytical survey of government's efforts to maintain competition through

antitrust legislation: to supervise acceptable cases of private monopoly through public utility regulation and via means of regulatory commissions, and to encourage or restrain various types of private economic activities. *Prerequisites: Economics 110 and 111 or consent of instructor.*

335 LABOR PROBLEMS

The history of organized labor in the United States, including the structure of unions, employers' opposition to unions, the role of government in labor-management relations, the economic impact of unions. *Alternate years.*

337 PUBLIC FINANCE

An analysis of the fiscal economics of the public sector, including the development, concepts, and theories of public expenditures, taxation, and debt at all levels of American government. Includes also the use of fiscal policy as an economic control device. *Prerequisites: Economics 110 and 111 or consent of instructor. Alternate years.*

440 HISTORY OF ECONOMIC THOUGHT

A discussion of the origins, development, and significance of the economic ideas embodied in the works of Smith, Marx, Schumpeter, Keynes, and others. *Prerequisites: Economics 110 and 111 or consent of instructor. Alternate years.*

441 MANAGERIAL ECONOMICS

The application of economic theory and methodology to the solution of business problems. Subjects include: optimizing techniques, risk analysis, demand theory, production theory, cost theory, linear programming, capital budgeting, market structures, and the theory of pricing. *Prerequisites: Economics 110 and 111. Some understanding of differential calculus is recommended.*

443 INTERNATIONAL TRADE

A study of the principles, theories, development, and policies concerning international economic relations, with particular reference to the United States. Subjects covered include: U.S. commercial policy and its development, international trade theory, tariffs and other protectionist devices, international monetary system and its problems, balance of payments issues. *Alternate years. Prerequisites: Economics 110 and 111.*

470-479 INTERNSHIP (See index)

Typically off campus in business, banking, or government, supervised by assigned employee of sponsoring organization.

N80-N89 INDEPENDENT STUDY  
(See index)

Superior students may select independent study in various courses, particularly in preparation for graduate school.

490-491 INDEPENDENT STUDY FOR  
DEPARTMENTAL HONORS  
(See index)

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## EDUCATION

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Assistant Professors: Conrad  
(Chairperson), Powers

Part-time Instructors: Marks, Shivelis

The Education Department offers Pennsylvania approved teacher certification programs in elementary and secondary education, as well as a school nurse certification program.

Students seeking secondary certification must complete Education 200 and Psychology 338, as prerequisites to the professional semester (Education 446, 447, 449), as well as the necessary subject area courses. Students may earn secondary certification in one or more of the following areas: Art (K-12), biology, chemistry, English, French, general science, German, mathematics, music (K-12), physics, school nurse (K-12), social studies, and Spanish.

Students seeking elementary certification must complete Education 200, Psychology 338, Mathematics 105, Education 000, 341, 342, 343, and 344 as prerequisites to the professional semester (Education 445, 447 and 448).

Students interested in the teacher-education program should refer to the *Teacher Education Handbook*, which specifies the current requirements for certification. Early consultation with a member of the Education Department is strongly recommended. Application for the professional semester must be made during the fall Semester of the junior year. The Department of Education admits to the professional semester only those applicants who are in good academic standing, have satisfactorily completed the participation requirements, have paid the student teaching



fee, and have received a positive evaluation based upon: (a) letters from the student's major department; (b) letters from two additional faculty outside the Department of Education; (c) a screening interview conducted by the Education Department; and (d) a writing sample from the student. Major departments have different criteria for their recommendations. Therefore, the student should consult with the chairperson of the major department about those requirements.

**000 SEMINAR IN ART, MUSIC, PHYSICAL EDUCATION**

Each elementary student teacher attends a series of 18 seminars conducted prior to student teaching, during the Fall Semester of the senior year. These seminars, conducted by certified public school personnel, emphasize activities and knowledge which are helpful in the self-contained elementary classroom. Non-credit course.

**005 DEVELOPMENTAL SEMINAR**

The course focuses on developing reading and study skills which are useful in college. Reading comprehension, vocabulary building, and critical reading are especially emphasized. Study skills, including time management, textbook reading, reading-study systems, notetaking, test-taking skills, and library reference skills are also stressed. *Open only to freshmen who are enrolled in English 005 or with consent of instructor. One-half unit of credit.*

**200 INTRODUCTION TO THE STUDY OF EDUCATION**

A study of teaching as a profession with emphasis on the economic, social, political, and religious conditions which influence American schools and teachers. Consideration is given to the school environment, the curriculum, and the children with the intention that students will examine more rationally their own motives for entering the profession.

**232 INSTRUCTIONAL MEDIA AND COMMUNICATIONS**

A study of the value, design, construction, and application of the visual and auditory aids to learning. Practical experience in the handling of audio-visual equipment and materials is provided. Application of audio-visual techniques. Application of the visual and auditory aids to learning. Students will plan and carry out actual teaching assignments utilizing various A-V devices.

**239 PUBLIC SCHOOL CURRICULUM**

An examination of the various curricula of the public schools and their relationships to current practices. Special attention will be given to the meaning and nature of the curriculum, the desirable outcomes of the curriculum, conflicting and variant conceptions of curricular content, modern techniques of curricular construction, criteria for the evaluation of curricula, the curriculum as a teaching instrument. Emphasis will be placed upon the curriculum work within the teaching field of each individual.

**341 TEACHING THE SOCIAL STUDIES IN THE ELEMENTARY SCHOOL**

Studies and experiences to develop a basic understanding of the structure, concepts, and processes of anthropology, economics, geography, history, political science, and sociology as they relate to the elementary school social-science curriculum. Practical applications, demonstrations of methods, and the development of integrated teaching units using tests, reference books, films, and other teaching materials. Observation and participation in Lycoming County elementary schools. *Prerequisites: Education 200 and Psychology 338 or consent of instructor.*

**342 TEACHING SCIENCE IN THE ELEMENTARY SCHOOL**

Science methods and materials interpreting children's science experiences and guiding the development of their scientific concepts. A study of the science content of the curriculum, its material, and use. Observation and participation in Lycoming County elementary schools. *Prerequisites: Education 200 and Psychology 338 or consent of instructor.*

**343 TEACHING LANGUAGE ARTS AND CHILDREN'S LITERATURE IN THE ELEMENTARY SCHOOL**

A course designed to consider the principal means of communication, oral and written, including both practical and creative uses. Attention will be given to listening, speaking, written expression, linguistics and grammar, spelling, and handwriting. Stress will be placed upon the interrelatedness of the language arts. Children's literature will be explored as a vehicle for developing creative characteristics in children and for ensuring an appreciation of the creative writing of others. Observation and participation in Lycoming County elementary schools. *Prerequisites: Education 200 and Psychology 338 or consent of instructor.*

**344 TEACHING READING IN THE ELEMENTARY SCHOOL**

A basic course in the philosophy and ration-

ale for the implementation of an elementary developmental-reading program from kindergarten through sixth grade. Emphasis is upon designing a reading instructional program which reflects the nature of the learning process and recognizes principles of child development through examination of the principles, problems, methods, and materials used in elementary reading programs. Observation and participation in Lycoming County elementary schools. *Prerequisites: Psychology 338, Education 200, or consent of instructor.*

**The Elementary Professional Semester**

The following courses comprise the Elementary Professional Semester:

- Education 445 Methods of Teaching in the Elementary School
- Education 447 Problems in Contemporary American Education
- Education 448 Student Teaching in the Elementary School

**445 METHODS OF TEACHING IN THE ELEMENTARY SCHOOL (PART OF THE PROFESSIONAL SEMESTER)**

The course emphasizes the relationship between the theoretical studies of physical, social, and cognitive development and the elementary classroom environment. Particular consideration will be given to the appropriate age and developmental level of the students with an emphasis upon selection and utilization of methods in all the elementary subject areas, including art and music. Specific attention is given to the development of strategies for structuring lesson plans, for maintaining classroom control, and for overall classroom management. Direct application is made to the individual student-teaching experience. *Prerequisites: Mathematics 105, Education 341, 342, 343 and 344, or consent of instructor.*

**447 PROBLEMS IN CONTEMPORARY AMERICAN EDUCATION (PART OF THE PROFESSIONAL SEMESTER)**

Seminar in the issues, problems, and challenges encountered by teachers in the American public schools, especially those related to the student-teaching experience.

**448 STUDENT TEACHING IN THE ELEMENTARY SCHOOL (PART OF THE PROFESSIONAL SEMESTER)**

Professional experience under the supervision of a selected cooperating teacher in a public elementary school in Lycoming County. Student teachers are required to



follow the calendar of the school district to which they are assigned. Two units maximum.

Students are considered full time when enrolled in the Professional Semester. Those students needing an additional course must comply with the standards stated in the College catalog.

#### The Secondary Professional Semester

The following courses comprise the Secondary Professional Semester:

- Education 446 Methods of Teaching in the Secondary School
- Education 447 Problems in Contemporary American Education
- Education 449 Student Teaching in the Secondary School

#### 446 METHODS OF TEACHING IN THE SECONDARY SCHOOL (PART OF THE PROFESSIONAL SEMESTER)

A study of materials, methods, and techniques with emphasis on the student's major. Stress is placed on the selection and utilization of visual and auditory aids to learning. Students teach demonstration lessons in the presence of the instructor and the members of the class and observe superior teachers in Lycoming County secondary schools. *Prerequisite: Education 200, Psychology 338, and pre-student teaching participation.*

#### 447 PROBLEMS IN CONTEMPORARY AMERICAN EDUCATION (PART OF THE PROFESSIONAL SEMESTER)

Seminar in the issues, problems, and challenges encountered by teachers in the American public schools, especially those related to the student-teaching experience.

#### 449 STUDENT TEACHING IN THE SECONDARY SCHOOL (PART OF THE PROFESSIONAL SEMESTER)

Professional laboratory experience under the supervision of a selected cooperating teacher in a public secondary school in Lycoming County. Student teachers are required to follow the calendar of the school district to which they are assigned. Two units maximum.

Students are considered full time when enrolled in the Professional Semester. Those students needing an additional course must comply with the standards stated in the College catalog.

## ENGLISH

Professors: Jensen (Chairperson), Van Marter  
Associate Professor: Rife  
Assistant Professors: Austin, Bidlake, Hawkes, Moses  
Part-time Instructor: Cronin

A major consists of nine courses not including English 005 or 106. These nine courses must include English 217, 220, 221, 222, 223, and one from English 335 and 336.

The remaining electives may include any course from English 112 and above not already taken to satisfy the preceding requirements. With the consent of the Department of English, an appropriate course from the offerings of other departments may be substituted for an English elective.

Majors seeking secondary certification in English are required to take English 335, English 338, and Theatre 100.

The Department of English participates with seven others in the American Studies interdisciplinary major, in which American literature courses constitute an important part of the American-arts concentration area.

Because of its emphasis on communication skills, a major or a minor in English is excellent preparation for a wide range of professions. In addition to preparing students for graduate work or for teaching, a major or a minor in English can be valuable for those interested in a career in law, ministry, publishing, editing or writing, and business, to name a few.

Two minors are available in the Department of English. A minor in *Literature* consists of five literature courses numbered 112 and above, three of which must be numbered 200 or above, and at least one of which must be numbered 300 or above. With the written consent of the department, one writing course may be substituted for a literature course. A minor in *Writing* consists of four courses: three from English 217, 228, 316 and 338; and one Writing Intensive

course in literature at the 300 level or above.

#### 005 WORKSHOP IN DEVELOPMENTAL WRITING

Classroom and laboratory instruction in organizing and writing the detailed paragraph and illustrative expository theme, with major emphasis on spelling, grammar, and sentence structure. Writing assignments and classroom exercises designed to ensure mastery of the student's special problems in basic writing.

One-half unit grade of "P" will be assigned when the student has successfully completed all of the work in the course. Required of, and limited to, those who have not been exempted from English 005.

#### 106 COMPOSITION

Extensive practice in analytical writing. Special emphasis on developing the composing skills needed to articulate and defend a position in various situations requiring the use of written English.

#### 112 INTRODUCTION TO LITERATURE

An introduction to the study of literature designed for the general student and utilizing one of the following approaches: major literary genres, selected literary masterpieces, or traditional themes in literature. *Prerequisite: English 106 or consent of instructor.*

#### 217 CRITICAL WRITING

Designed to provide intermediate students of literature with the critical skills necessary for an understanding of poetry, fiction, drama, and film. Intensive reading and extensive practice in writing the critical essay. *Required of English majors. Prerequisite: English 106 or consent of instructor.*

#### 220 BRITISH LITERATURE I

Literary forms, themes, and authors from the Anglo-Saxon through the Neoclassical periods. Such writers as Chaucer, Spenser, Shakespeare, Milton, Swift, Pope, and Johnson; representative works from *Beowulf* to Sterne's *Sentimental Journey*. *Prerequisite: English 106 or consent of instructor.*

#### 221 BRITISH LITERATURE II

Literary movements and authors from the Romantic Period to the present. Particular emphasis on such writers as Blake, Wordsworth, Shelley, Keats, Tennyson, Browning, Arnold, Hardy, Yeats, Eliot. *Prerequisite: English 106 or consent of instructor.*

#### 222 AMERICAN LITERATURE I

Brief survey of American literature and thought before 1800, followed by more intensive study of the literature and thought of the period 1800-1900. Major focus on the

works of Emerson, Thoreau, Poe, Hawthorne, Melville, Whitman and Dickinson. *Prerequisite: English 106 or consent of instructor.*

## 223 AMERICAN LITERATURE II

Major writers, movements, and tendencies in American literature during the present century. Such forces as naturalism, realism, and modernism; such writers as Twain, James, Hemingway, Faulkner, Frost, Eliot, and Stevens. *Prerequisite: English 106 or consent of instructor.*

## 224 THE SHORT STORY

Historical and critical study of the short story. Consideration of representative examples of the form with emphasis on American and European writers of the 19th and 20th centuries. *Prerequisite: English 106 or consent of instructor.*

## 225 THE NOVEL

Historical study of the development of the novel from the 18th through the 20th centuries. Novels analyzed both as works of prose art and as turning points in the development of the novel. *Alternate years. Prerequisite: English 106 or consent of instructor.*

## 228 CREATIVE WRITING WORKSHOP: FICTION AND POETRY

A beginning course in the theory and practice of writing fiction and poetry. Students may concentrate in either genre or both. *Alternate years. Prerequisite: English 106 or consent of instructor.*

## 316 ADVANCED WRITING

An advanced writing course in analytical thinking and writing which develops skills in various modes of discourse designed for different audiences. Intended for students in all majors, the course seeks to improve the student's ability to write effectively. *Prerequisite: A grade of C or better in English 106 or consent of instructor. Alternate years.*

## 330 ROMANTIC LITERATURE

A study of the major poetry and fiction, plus some non-fiction prose, written during the years, 1789-1832. Emphasis on the work of at least three poets, two novelists, and assorted prose writers. *Prerequisite: English 106 or consent of instructor. Alternate years.*

## 331 MODERN FICTION

Study of the novels and short fiction of such major British and American figures as Conrad, Forster, Woolf, Lawrence, Joyce, Hemingway, Faulkner, Nabokov, and Bellows. *Prerequisite: English 106 or consent of instructor.*

## 332 MODERN POETRY

A study of the poetry written in this century, beginning with Yeats and Eliot and continuing through such writers as Frost, Williams, Moore, Stevens, Auden, Lowell, Roethke, Thomas, Ginsberg, and Rich. *Prerequisite: English 106 or consent of instructor. Alternate years.*

## 333 COMEDY, TRAGEDY, AND THE MODERN THEATRE

Introduction to the theories of comedy and tragedy as those theories help us to deepen our response to the theatre. Major focus on plays, including musicals, from Ibsen and Shaw to the present. *Prerequisite: English 106 or consent of instructor. Alternate years.*

## 334 WOMEN AND LITERATURE

Through an examination — literary, social, and historical — of selected British and American literature by women, this course will seek to identify those elements which distinguish women's particular contribution to the literary canon. *Prerequisite: English 106 or consent of instructor. Alternate years.*

## 335 CHAUCER

A study of the major works with emphasis on *The Canterbury Tales* and *Troilus and Criseyde*. Some attention to the traditions out of which these works arose. *Required of majors seeking secondary certification in English. Prerequisite: English 106 or consent of instructor. Alternate years.*

## 336 SHAKESPEARE

A study of representative plays: comedies, tragedies, histories, romances. Attention given to Shakespeare's life and times. *Prerequisite: English 106 or consent of instructor. Alternate years.*

## 338 LINGUISTICS AND THE ANALYSIS OF THE ENGLISH LANGUAGE

Introduction to methods of analyzing spoken and written English. Classroom work supported by weekly tutorials, in which the student gains practical experience in identifying, diagnosing, and correcting basic communications problems. *Required of majors seeking secondary certification in English. Prerequisite: English 106 or consent of instructor. Alternate years.*

## 440 SELECTED WRITERS

An intensive study of no more than three writers, selected on the basis of student and faculty interest. Possible combinations include: Frost, Hemingway, and Faulkner; O'Connor, Welty, and Porter; Spenser and Milton; Hawthorne, Melville, and Dickens; Woolf, Forster, and Lawrence; Joyce and Yeats. *May be repeated for credit if the writers are different. Prerequisite: English 106 or consent of instructor. Alternate years.*

## 441 TOPICS IN LITERATURE

Examination of a literary theme, idea, or movement as it appears in one or more types of literature and as it cuts across various epochs. Possible topics include: American Novelists and Poets of the Jazz Age and Depression; Religion and Literature; Gothic Tradition in American Literature; Realism in the Novel; Literary Modernism; Literature and Mythology; The Hero in Literature. *May be repeated for credit if the topic is different. Prerequisite: English 106 or consent of instructor. Alternate years.*

## 470-479 INTERNSHIP (See index)

Interns typically work off campus in a profession related to their career interest such as law, public relations, journalism, and others.

## N80-N89 INDEPENDENT STUDY (See index)

Recent studies include *The Arthurian Legend*, Shakespeare's *Women*, D.H. Lawrence, and T.S. Eliot: *The Social Vision*.

## 490-491 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See index)

Recent projects include *The Creative Process in Literature and Art* and *Images of Women in the 1890's*.

## FOREIGN LANGUAGES AND LITERATURES

Associate Professors: Maples, MacKenzie (Chairperson)  
Part-time Instructor: Yeager

Study of foreign languages and literatures offers opportunity to explore broadly the varieties of human experience and thought. It contributes both to personal and to international understanding by providing competence in a foreign language and a critical acquaintance with the literature and culture of foreign peoples. A major can serve as entree to careers in business, industry, government, publishing, education, journalism, social agencies, translating, and writing. It prepares for graduate work in literature or linguistics and the international fields of politics, commerce, law, health, and area studies.

French, German, and Spanish are offered as major fields of study. The ma-

major consists of at least eight courses numbered 111 or above. Majors seeking teacher certification and students planning to enter graduate school are advised to begin study of a second foreign language. The department encourages the development in breadth of programs, including allied courses from related fields or a second major, and also individual or established interdisciplinary majors combining interest in several literatures or area or cross-cultural studies; for example, International Studies, 20th Century Studies, the Major in Literature. Majors, teacher certification candidates, and all students are encouraged to spend at least a semester of study abroad by applying to one of the many programs available. The department maintains a file of such programs.

*Courses taught in English:* Foreign Languages and Literatures 225, French 228 (Section A) and Spanish 331 (Section A).

## Foreign Languages and Literatures

### 225 CONTINENTAL LITERATURE

A study of such major continental authors as Cervantes, Dostoevsky, Chekhov, Dante, Ibsen, Proust, Gide, Kafka, Hesse, Goethe, Sartre, Camus, Brecht, and Ionesco. Works read in English translation will vary and be organized around a different theme or topic; recent topics have been existentialism, modernism, drama, the Weimar era, and 20th century Scandinavian and German prose writers. *Prerequisite:* None. May be repeated for credit with consent of instructor. May be accepted toward the English major with consent of the Department of English.

### 338 FOREIGN LANGUAGE: SYSTEMS AND PROCESS

Study of basic linguistic concepts as a tool for language learning and teaching. Discussion and application of language teaching techniques, including work in the language laboratory. Designed for future teachers of one or more languages and normally taken in the junior year. Students should arrange through the Department of Education to fulfill in the same semester the requirements of a participation experience in area schools. *Prerequisite:* consent of instructor.

## French

A major consists of a minimum of eight courses numbered 111 or above, including at least two from 402, 412,

423, and 427. In addition, all majors who wish to be certified for teaching must pass courses 221-222, and Foreign Languages and Literatures 338 (the latter course with a C or better).

A minor in *French* consists of at least four courses numbered 221 and above. Courses 111 and 112 may be counted toward the minor, but then the minor must consist of at least five courses, three of which must be numbered 200 and above.

### 101-102 ELEMENTARY FRENCH

The aim of the course is to acquire the fundamentals of the language with a view to using them. Regular practice in speaking, understanding, and reading.

### 111-112 INTERMEDIATE FRENCH

Review and development of the fundamentals of the language for immediate use in speaking, understanding, and reading with a view to building confidence in self-expression. *Prerequisite:* French 102 or equivalent.

### 221-222 FRENCH LANGUAGE PRACTICE

Further training in speaking, listening comprehension, reading, and writing. Includes extensive work in grammar. *Prerequisite:* French 112 or equivalent.

### 228 MODERN FRANCE

A course designed to familiarize students with political and social structures and cultural attitudes in contemporary French society. Materials studied may include such documents as newspaper articles, interviews and sociological surveys, and readings in history, religion, anthropology, and the arts. Some attention to the changing education system and the family and to events and ideas which have shaped French society. May include some comparative study of France and the United States.

*English Section:* Not applicable toward satisfying the foreign language distribution requirement. *Prerequisite:* none.

*French Section:* Offers readings, papers, and interviews in French for students with sufficient language skill. Can be applied toward the foreign language distribution requirement. *Prerequisite:* French 221 or consent of instructor.

### 402 FRENCH LITERATURE TO 1800

Major authors and movements from the Medieval, Renaissance, Classical and Enlightenment periods. Includes the *chanson de geste*, Villon, Montaigne, Corneille, Racine, Molière, Voltaire and Rousseau.

*Prerequisite:* French 222 or 228 or consent of instructor. Alternate years.

### 412 FRENCH LITERATURE OF THE 19TH CENTURY

The dimensions of the Romantic sensibility: Musset, Hugo, Vigny, Balzac, Stendhal. Realism and Naturalism in the novels of Flaubert and Zola. Reaction in the poetry of Baudelaire, Rimbaud, Verlaine, and Mallarmé. *Prerequisite:* French 222 or 228 or consent of instructor. Alternate years.

### 423 MODERN FRENCH THEATRE

Major trends in French drama from the turn of the century to Existentialism and the Theatre of the Absurd, Giraudoux, Anouilh, Sartre, Camus, Beckett, Ionesco, Genet, Adamov, and others. *Prerequisite:* French 222 or 228 or consent of instructor.

### 427 FRENCH LITERATURE OF THE 20TH CENTURY

Representative poets and novelists of modern France. Readings selected from the works of authors such as Proust, Gide, Aragon, Giono, Mauriac, Céline, Malraux, Saint-Exupéry, Camus, the "new novelists" (Robbe-Grillet, Butor, Sarraute, Le Clézio), and the poetry of Apollinaire, Valéry, the Surrealists (Breton, Reverdy, Eluard, Char), Saint-John Perse, Supervielle, Prévert, and others. Some attention to works of French-speaking African writers. *Prerequisite:* French 222 or 228 or consent of instructor. Alternate years.

### 441 ADVANCED LANGUAGE PRACTICE

Intensive practice for advanced students who wish to improve further their spoken and written French. Includes work in oral comprehension, phonetics, pronunciation, oral and written composition, and translation. *Prerequisite:* one course from French 402, 412, 423, 427 or consent of instructor.

### 470-479 INTERNSHIP (See index)

### N80-N89 INDEPENDENT STUDY (See index)

Examples of recent studies in French include translation, existentialism, the classical period, enlightenment literature, and Saint-Exupéry.

### 490-491 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See index)

## German

A major consists of a minimum of eight courses numbered 111 or above. One unit of Foreign Languages and Literatures 225 may be included in the

major with permission. German 431 or German 441 is required of all majors.

All majors who wish to be certified for teaching must pass German 323 and 325. In addition to the eight courses for the major they must also pass Foreign Languages and Literatures 338 with a grade of C or better. All majors are urged to enroll in History 416, Music 336, Political Science 220 and Theatre 335.

A minor in *German* consists of at least four courses numbered 200 and above. Courses 111 and 112 may be counted toward the minor, but then the minor must consist of at least five courses, three of which must be numbered 200 and above.

#### 101-102 ELEMENTARY GERMAN

Aim of course is to acquire the fundamentals of the language with a view to using them. Regular practice in speaking, understanding, and reading.

#### 111-112 INTERMEDIATE GERMAN

Review and development of fundamentals of the language for immediate use in speaking, understanding, and reading with a view to building confidence in self-expression. *Prerequisite: German 102 or equivalent.*

#### 221-222 COMPREHENSIVE REVIEW AND LANGUAGE PRACTICE

A two-semester course designed to review and develop skills in speaking, listening, writing and reading. Grammar and vocabulary building are stressed with intensive review, writing practice and some reading on contemporary issues in German-speaking countries. As the course progresses, greater emphasis is placed on speaking, listening comprehension, and translation. Some attention is given to the development of the language and its relationship to English. *Prerequisite: German 112 or equivalent.*

#### 323 SURVEY OF GERMAN LITERATURE AND CIVILIZATION I

Designed to acquaint the student with important periods of German literature, representative authors, and major cultural developments in Germany, Austria, and Switzerland. The course deals with literature and culture from the Early Middle Ages through the 18th century. *Prerequisite: German 222 or consent of instructor.*

#### 325 SURVEY OF GERMAN LITERATURE AND CIVILIZATION II

Designed to acquaint the student with important periods of German literature, representative authors, and major cultural develop-

ments in Germany, Austria, and Switzerland. The course deals with literature and culture from the 19th century to the present. *Prerequisite: German 222 or consent of instructor.*

#### 411 THE NOVELLE

The German Novelle as a genre relating to various literary periods. *Prerequisite: German 323 or 325 or consent of instructor.*

#### 421 GERMAN POETRY

A study of selected poets or the poetry of various literary periods. Possible topics include: Romantic poetry, Heine, Rilke, and Benn. *Prerequisite: German 323 or 325 or consent of instructor.*

#### 431 GOETHE

A study of the life and works of Goethe. Goethe's significance in the Classical period and later. Readings in the major works. *Prerequisite: German 323 or 325 or consent of instructor.*

#### 433 CLASSICAL GERMAN DRAMA

The development of *das klassische Drama* with emphasis on works of Lessing, Goethe, Kleist, and Schiller. *Prerequisite: German 323 or 325 or consent of instructor.*

#### 441 CONTEMPORARY GERMAN LITERATURE

Representative poets, novelists and dramatists of contemporary Germany, Switzerland and Austria covering the period from 1945 to the present. Readings selected from writers such as: Borchert, Böll, Brecht, Benn, Frisch, Dürrenmatt, Bichsel, Handke, Walser, Grass and others. *Prerequisite: German 323 or 325 or consent of instructor.*

#### 470-479 INTERNSHIP (See index)

#### N80-N89 INDEPENDENT STUDY (See index)

Examples of recent studies in German include Classicism, Germanic Mythology, Hermann Hesse, the dramas of Frisch, and Dürrenmatt.

#### 490-491 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See index)

### Greek

Greek is not offered as a major. An interdisciplinary minor in *Biblical Languages* requires the completion of Greek 221, 222 and Hebrew 221 and 222.

#### 101-102 NEW TESTAMENT GRAMMAR AND READINGS

Fundamentals of New Testament Greek

grammar and readings of selected passages of the Greek text. *Alternate years.*

#### 221 READINGS IN THE SYNOPTIC GOSPELS

A comparative study of the synoptic tradition in Greek. *Prerequisite: Greek 102 or equivalent. Alternate years.*

#### 222 READINGS IN THE PAULINE EPISTLES

Selected readings from the letters of Paul in Greek. *Prerequisite: Greek 221 or equivalent. Alternate years.*

### Hebrew

Hebrew is not offered as a major. An interdisciplinary minor in *Biblical Languages* requires the completion of Greek 221, 222 and Hebrew 221 and 222.

#### 101-102 OLD TESTAMENT GRAMMAR AND READINGS

Fundamentals of Old Testament Hebrew grammar and readings of selected passages of the Hebrew text. *Alternate years.*

#### 221 READINGS IN OLD TESTAMENT NARRATIVE

A critical reading of the Hebrew text of selected narrative portions of the Old Testament with special attention being given to exegetical questions. The text read varies from year to year. *Prerequisite: Hebrew 102 or equivalent. Alternate years.*

#### 222 READINGS IN THE PROPHETIC BOOKS AND WISDOM LITERATURE

A critical reading of the Hebrew text of selected portions of Old Testament prophecy and wisdom literature with special attention being given to exegetical questions. The text read varies from year to year. *Prerequisite: Hebrew 221 or equivalent. Alternate years.*

### Spanish

A major consists of eight courses numbered 111 or above. Foreign Languages and Literatures 338 does not count toward the major.

All majors who wish to be certified for teaching in secondary school must pass Foreign Languages and Literatures 338 (grade of C or better) and Spanish 418.

A minor in *Spanish* consists of at least four courses numbered 200 and above. Courses 111 and 112 may be counted toward the minor, but then the minor must consist of at least five courses, three of which must be numbered 200 and above.

#### 101-102 ELEMENTARY SPANISH

Aim of course is to acquire the fundamentals of the language with a view to using them. Regular practice in speaking, understanding, and reading.

#### 111-112 INTERMEDIATE SPANISH

Review and development of fundamentals of the language for immediate use in speaking, understanding, reading and writing with a view to building confidence in self-expression. Usually the student chooses from among the following areas for their work in building vocabulary and fluency: Spanish for Business and Economics, Spanish for Social Services, Spanish for Law Enforcement, Spanish for Health Care Professionals, or, for the student who does not plan to use the language for one of these specific career goals, Spanish for Communication. *Prerequisite: Spanish 102 or equivalent.*

#### 221-222 COMPREHENSIVE REVIEW AND LANGUAGE PRACTICE

This course consists of a thorough review of grammar, drills for oral comprehension and expression, discussion of readings and the writing of compositions. It is designed to develop the student's ability to read, write and converse in Spanish with confidence. *Prerequisite: Spanish 112 or equivalent.*

#### 311 HISPANIC CULTURE

To introduce students to the Spanish-speaking people — their values, customs and institutions, with reference to the geographic and historical forces governing present-day Spain and Spanish America. *Prerequisite: Spanish 222 or consent of instructor. Alternate years.*

#### 323 SURVEY OF SPANISH LITERATURE AND CIVILIZATION

Designed to acquaint the student with important periods of Spanish literature, representative authors, and major socio-economic developments. The course deals with the literature from the beginning to the present. *Prerequisite: Spanish 222 or consent of instructor. Alternate years.*

#### 325 SURVEY OF SPANISH-AMERICAN LITERATURE AND CIVILIZATION

Designed to acquaint the student with important periods of Spanish-American literature, representative authors, and major socio-economic developments. The course deals with the literature, especially the essay and poetry, from the 16th century to the present. *Prerequisite: Spanish 222 or consent of instructor. Alternate years.*

#### 418 ADVANCED LANGUAGE PRACTICE

Intensive practice for advanced students who wish to improve further their spoken and

written Spanish. Includes work in oral comprehension, pronunciation, oral and written composition, and translation. *Prerequisite: One Spanish course at the 300's level or consent of instructor. Alternate years.*

#### 424 SPANISH LITERATURE OF THE GOLDEN AGE

A study of representative works and principal literary figures in the poetry, prose, and drama of the 16th and 17th centuries. *Prerequisite: Spanish 323, 325, or consent of instructor.*

#### 426 MODERN HISPANIC LITERATURE

Readings of important works of drama, poetry, and prose from the major periods of 19th and 20th century Spanish and Latin-American literature. *Prerequisite: Spanish 323, 325, or consent of instructor.*

#### 470-479 INTERNSHIP (See index)

#### N80-N89 INDEPENDENT STUDY (See index)

Recent studies include literary, linguistic, and cultural topics and themes such as urban problems as reflected in the modern novel.

#### 490-491 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See index)

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### HISTORY

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Professors: Larson, Piper (Chairperson)  
Associate Professor: Morris

A major consists of 10 courses, including 110, 111, and 449. At least seven courses must be taken in the department. The following courses may be counted toward fulfilling the major requirements: American Studies 200, Political Science 439, Religion 226 and 228. Other appropriate courses outside the department may be counted upon departmental approval. For history majors who student teach in history, the major consists of nine courses. In addition to the courses listed below, special courses, independent study, and honors are available. Special courses recently taught and anticipated include a biographical study of European Monarchs, the European Left, the Industrialization and Urbanization of Modern Europe, Utopian Movements in America, the Peace Movement in America, The Vietnam War, and

American Legal History. History majors are encouraged to participate in the internship program.

Three minors are offered by the Department of History. The following courses are required to complete a minor in *American History*: History 125, 126, and three courses in American history numbered 200 and above. A minor in *European History* requires the completion of History 110, 111, and three courses in European history numbered 200 and above. To obtain a minor in *History* (without national or geographic designation), a student must complete six courses in history, of which three must be chosen from History 110, 111, 125 and 126 and three must be history courses numbered 200 and above.

#### 105 SELECTED THEMES IN WESTERN CIVILIZATION

A survey of the political, economic, social, and cultural values and institutions in Western Civilization from the time of classical Greece to the present. *One-half unit of credit. (Not open to students who have had History 110 and 111).*

#### 110 EUROPE 1500-1815

An examination of the political, social, cultural, and intellectual history of Europe and its relations with other areas of the world from 1500 to 1815.

#### 111 EUROPE 1815-Present

An examination of the political, social, cultural, and intellectual history of Europe and its relations with other areas of the world from 1815 to the present.

#### 120 LATIN AMERICAN HISTORY

An examination of the native civilization, the age of discovery and conquest, Spanish colonial policy, the independence movements, and the development of modern institutions and governments in Latin America. *Alternate years.*

#### 125 UNITED STATES HISTORY 1607-1877

A study of the men, measures, and movements which have been significant in the development of the United States between 1607 and 1877. Attention is paid to the problems of minority groups as well as to majority and national influences.

#### 126 UNITED STATES HISTORY 1877-Present

A study of men, measures, and movements which have been significant in the develop-

ment of the United States since 1877. Attention is paid to the problems of minority groups as well as to majority and national influences.

## 210 ANCIENT HISTORY

A study of the ancient western world, including the foundations of the western tradition in Greece, the emergence and expansion of the Roman state, its experience as a republic, and its transformation into the Empire. The course will focus on the social and intellectual life of Greece and Rome as well as political and economic changes. *Alternate years.*

## 212 MEDIEVAL EUROPE AND ITS NEIGHBORS

The history of Europe from the dissolution of the Roman Empire to the mid-15th century. The course will deal with the growing estrangement of western Catholic Europe from the Byzantium and Islam, culminating in the Crusades; the rise of the Islamic Empire and its later fragmentation; the development and growth of feudalism; the conflict of empire and papacy, and the rise of the towns. *Alternate years.*

## 216 FRENCH REVOLUTION AND NAPOLEON

An analysis of the political, social, and intellectual background of the French Revolution, a survey of the course of revolutionary development, and an estimate of the results of the Napoleonic conquests and administration. *Prerequisite: History 110 or consent of instructor. Alternate years.*

## 218 EUROPE IN THE ERA OF THE WORLD WARS

An intensive study of the political, economic, social, and cultural history of Europe from 1900-1945. Topics include the rise of irrationalism, the origins of the First World War, the Communist and Fascist Revolutions, and the attempts to preserve peace before 1939. *Prerequisite: History 111 or consent of instructor.*

## 219 CONTEMPORARY EUROPE

An intensive study of the political, economic, social, and cultural history of Europe since 1945. Topics include the post-war economic recovery of Europe, the Sovietization of Eastern Europe, the origins of the Cold War, decolonization, and the flowering of the welfare state. *Prerequisite: History 111 or consent of instructor.*

## 222 HISTORY OF WORLD WAR II

A comprehensive examination of World War II emphasizing the effect of ideological, economic, and political forces on the formulation of military strategy and the conduct of operation; the nature and extent of the expansion of government powers; and the experience of war from the perspective of ordinary civilians and military alike. *Does not count toward distribution.*

## 226 COLONIAL AMERICA AND THE REVOLUTIONARY ERA

The establishment of British settlements on the American continent, their history as colonies, the causes and events of the American Revolution, the critical period following independence, and proposal and adoption of the United States Constitution. *Alternate years.*

## 230 AFRO-AMERICAN HISTORY

A study of the experiences and participation of Afro-Americans in the United States. The course includes historical experiences such as slavery, abolition, reconstruction, and urbanization. It also raises the issue of the development and growth of white racism, and the effect of this racism on contemporary Afro-American social, intellectual, and political life. *Alternate years.*

## 244 20TH CENTURY UNITED STATES

This course begins with the Progressive Era and includes the political, economic, and social developments in the 20th century. Emphasis will be placed on the domestic and international demands which have faced the United States in the period following World War II.

## 310 WOMEN IN HISTORY

An examination of the social, political, economic and intellectual experience of women in the Western World from ancient times to the present. May be taken for either one-half unit (section 310A) or full unit (section 310B); declared majors and prospective majors should take the full-unit course, 310B.

## 316 CONFLICT IN WESTERN CIVILIZATION

An in-depth study of the changing nature of war and its relationship to the development of Western Civilization since the end of the Middle Ages. Particular emphasis will be placed on the role of war in the development of the modern nation state and the origins and nature of total war. *Alternate years.*

## 320 DIPLOMATIC HISTORY OF EUROPE SINCE 1789

A survey of the development of the European-states system and the relations between the European states since the beginning of the French Revolution. *Prerequisite: History 111 or consent of instructor. Alternate years.*

## 322 THE CRISIS OF LIBERALISM AND NATIONALISM, EUROPE 1848-1870

An in-depth investigation of the crucial

"Middle Years" of 19th century Europe from the revolutions of 1848 through the unification of Germany. The course centers on the struggles for power within the major states of Europe at this time, and how the vehicle of nationalism was used to bring about one type of solution. *Alternate years.*

## 328 AGE OF JEFFERSON AND JACKSON

The theme of the course is the emergence of the political and social characteristics that shaped modern America. The personalities of Thomas Jefferson, John Marshall, John Randolph, Aaron Burr, and Andrew Jackson receive special attention. Special consideration is given to the first and second party systems, the decline in community cohesiveness, the westward movement, and the growing importance of the family as a unit of social organization. *Alternate years.*

## 332 CIVIL WAR AND RECONSTRUCTION

The problems and events leading to war, the political and military history of the war, and the bitter aftermath to the Compromise of 1877.

## 340 20TH CENTURY UNITED STATES RELIGION

The study of historical and cultural developments in American society which relate to religion or what is commonly called religion. This involves consideration of the institutional and intellectual development of several faith groups as well as discussion of certain problems, such as the persistence of religious bigotry and the changing modes of church-state relationships. *Alternate years.*

## 416 HISTORY OF REFORMATION THOUGHT

A study of the ideas and systems of ideas propounded prior to the Reformation, but which are historically related to its inception, and of the ideas and systems of ideas involved in the formulation of the major Reformation Protestant traditions, and in the Catholic Reformation. Included are the ideas of the humanists of the Reformation Era. *Alternate years.*

## 418 HISTORY OF RENAISSANCE THOUGHT

A study of the classical, humanist, and scholastic elements involved in the development of the Renaissance outlook on views and values, both in Italy and in Northern Europe. The various combinations of social and political circumstances which constitute the historical context of these intellectual developments will be noted. *Alternate years.*

## 442 UNITED STATES SOCIAL AND INTELLECTUAL HISTORY TO 1877

A study of the social and intellectual experience of the United States from its colonial

antecedents through reconstruction. Among the topics considered are Puritanism, transcendentalism, community life and organization, education, and social-reform movements. *Prerequisites: two courses from History 125, 126, 230, or consent of instructor.*

**443 UNITED STATES SOCIAL AND INTELLECTUAL HISTORY SINCE 1877**

A study of the social and intellectual experience of the United States from reconstruction to the present day. Among the topics considered are social Darwinism, pragmatism, community life and organization, education and social reform movements. *Prerequisites: two courses from History 125, 126, 230, or consent of instructor.*

**449 HISTORICAL METHODS**

This course focuses on the nature and meaning of history. It will open to the student different historical approaches and will provide the opportunity to explore these approaches in terms of particular topics and periods. Majors are required to enroll in this course in either their junior or senior year. The course is open to other students who have two courses in history or consent of instructor.

**470-479 INTERNSHIP (See index)**

Typically, history interns work for local government agencies engaged in historical projects or for the Lycoming County Historical Museum.

**N80-N89 INDEPENDENT STUDY  
(See index)**

Recent topics include studies of the immigration of American blacks, political dissension in the Weimer Republic, Indian relations before the American Revolution, and the history of Lycoming County.

**490-491 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS  
(See index)**

## INTERNATIONAL STUDIES

Professor: Larson  
(Coordinator)

The major is designed to integrate an understanding of the changing social, political, and historical environment of Europe today with study of Europe in its relations to the rest of the world, particularly the United States. It stresses the international relations of the North

Atlantic community and offers the student opportunity to emphasize either European studies or international relations. The program provides multiple perspectives on the cultural traits that shape popular attitudes and institutions. Study of a single country is included as a data-base for comparisons, and study of its language, as a basis for direct communication with its people.

The program is intended to prepare a student either for graduate study or for careers which have an international component. International obligations are increasingly assumed by government agencies and a wide range of business, social, religious, and educational organizations. Opportunities are found in the fields of journalism, publishing, communications, trade, banking, advertising, management, and tourism. The program also offers flexible career preparation in a variety of essential skills, such as research, data analysis, report writing, language skills, and the awareness necessary for dealing with people and institutions of another culture. Preparation for related careers can be obtained through the guided selection of courses outside the major in the areas of business, economics, foreign languages and literatures, government, history, and international relations or through a second major. Students should design their programs in consultation with members of the Committee on International Studies.

By completing six to eight additional courses in the social sciences (which include those courses needed to complete a major in economics, history, political science, or sociology/anthropology) and the required program in education, students can be certified for the teacher education program in social studies. By completing a major in the foreign language (five or more courses) and the education program, students can be certified to teach that language. The International Studies program also encourages participation in study-abroad programs, as well as the Washington and United Nations semesters.

The major includes 11 courses selected as follows:

### International Relations Courses —

Four or two courses (if two, then four must be taken from Area Courses). Courses within this group are designed to provide a basic understanding of the international system and of Europe's relations with the rest of the world. Political Science 225 is required.

Political Science 225: World Politics  
Economics 443: International Trade  
History 320: European Diplomatic History  
Political Science 439: American Foreign Policy

### Area Courses —

Four or two courses (if two, then four must be taken from International Relations Courses). Courses within this group are designed to provide a basic understanding of the European political, social, and economic environment. History 111 and Economics 221 are required.

History 111: Europe 1815-Present  
Economics 221: Comparative Economic Systems  
Political Science 220: European Politics  
History 218: Europe in the Era of the World Wars  
History 219: Contemporary Europe

### National Courses

*Language* — Two courses in one language.

French 221, plus one course numbered 222 or above (except 228)  
German 221, plus one course numbered 222 or above  
Spanish 221, plus one course numbered 222 or above (except 311)

*Country* — One course. The student must select, according to his or her language preparation, one European country which will serve as a special interest area throughout the program. The country selected will serve as the base for individual projects in the major courses wherever possible.

France — French 228: Modern France  
Germany — History N80: Topics in German History  
Spain — Spanish 311: Hispanic Culture



**Elective Course** — One course which should involve further study of some aspect of the program. Appropriate courses are any area or international relations courses not yet taken, History 110, 316; Economics 226; Political Science 326, 327, 438; related foreign-literature courses counting toward the fine-arts requirement and internships.

### Senior Seminar

#### 449 SENIOR SEMINAR

A one-semester seminar, taken in the senior year, in which students and several faculty members will pursue an integrative topic in the field of international studies. Students will work to some extent independently. Guest speakers will be invited. The seminar will be open to qualified persons from outside the major and the College. *Prerequisite: consent of instructor.*

### LITERATURE

Associate Professor: Maples  
(Coordinator)

This major recognizes literature as a distinct discipline beyond national boundaries and combines the study of any two literatures in the areas of English, French, German, and Spanish. Students can thus explore two literatures widely and intensively at the upper levels of course offerings within each of the respective departments while developing and applying skills in foreign languages. The major prepares students for graduate study in either of the two literatures studied or in comparative literature.

The major requires at least six literature courses, equally divided between the two literatures concerned. The six must be at the advanced level as determined in consultation with advisors (normally courses numbered 200 and above in English and 400 and above in foreign languages). In general, two of the advanced courses in each literature should be period courses. The third course, taken either as a regular course or an independent study, may have as its subject another period, a particular author, genre, or literary theme, or some other

unifying approach or idea. Beyond these six, the major must include at least two additional courses from among those counting toward a major in the departments involved. Any prerequisite courses in the respective departments (for example: English 106, French 221-222 or 228, German 221-222, Spanish 221-222) should be taken during the freshman year. Students should design their programs in consultation with a faculty member from each of the literatures concerned. Programs for the major must be approved by the departments involved.

### MASS COMMUNICATION

Assistant Professor: Nason  
(Chairperson), Wild  
Part-time Instructor: Smith

The interdisciplinary major in Mass Communication recognizes the need for a liberal arts foundation and requires selected courses from the Departments of Art, Business, Administration, Political Science, Psychology, and Sociology/Anthropology. The major combines a core of Mass Communication courses with one of three professional tracks: Advertising/Public Relations, Broadcast Journalism, and Journalism. Emphasis is placed on developing an understanding of the cultural and historical roles of the mass media and on developing the communicative skills necessary for careers in the media.

Students majoring in Mass Communication must complete the Core Curriculum and one professional track. Each track requires a combination of theory, production, and writing courses.

A minor in *Mass Communication* consists of Mass Communication 110, 211, 215, and three of the following courses: Mass Communication 224, 329, 330, 331, 470.

#### 1. THE CORE CURRICULUM REQUIRED OF ALL STUDENTS

Mass Comm 215	Introduction to Media Writing
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Mass Comm 110	Introduction to Mass Communication
Mass Comm 211	Fundamentals of Oral Communication
Mass Comm 330	Theories and Issues in Mass Communication
Mass Comm 331	Mass Media Law and Regulation
Pol Sci 448	Public Opinion and Polling*
Mass Comm 247, 248, 249 (one credit each)	Practicum in Mass Communication

\*Business 445 (Marketing Research), Psychology 224 (Social Psychology) or Sociology 447 (Research Methods in Sociology) may be substituted. These courses require departmental prerequisites or consent of individual instructors.

Students must complete the requirements of one of the following professional tracks:

**Track I — Advertising/Public Relations**  
Business 228 Marketing Management I  
Business 332 Advertising  
Mass Comm 325 Writing for Business and Public Relations

One of the following writing courses:  
Mass Comm 323 Writing for Special Audiences  
Mass Comm 327 Print Journalism  
Mass Comm 329 Broadcast Journalism

Two of the following production courses:  
Art 115 Two-Dimensional Design  
Art 227 Introduction to Photography  
GCO 511 Layout and Design (WACC)  
Mass Comm 218 Radio Programming and Production  
Mass Comm 224 Television Production

**Track II — Journalism**  
Art 227 Introduction to Photography  
Mass Comm 327 Print Journalism  
GCO 511 Layout and Design (WACC)  
Pol Sci 111 State and Local Government

One of the following additional writing courses:  
Mass Comm 329 Broadcast Journalism  
Pol Sci 434 Political Newswriting

One of the following courses:  
History 126 United States History, 1877-present  
Philosophy 115 Philosophy and Public Policy  
Sociology 227 Social Problems\*  
Sociology 334 Racial and Cultural Minorities\*

\*Requires prerequisite or consent of instructor

### Track III — Broadcast Journalism

Mass Comm 218 Radio Programing and Production  
 Mass Comm 224 Television Production  
 Mass Comm 329 Broadcast Journalism  
 Pol Sci 111 State and Local Government  
 Pol Sci 434 Political Newswriting

One of the following courses:

History 126 United States History, 1877-present  
 Philosophy 115 Philosophy and Public Policy  
 Sociology 227 Social Problems\*  
 Sociology 334 Racial and Cultural Minorities\*

\*Requires a prerequisite or consent of instructor

#### 110 INTRODUCTION TO MASS COMMUNICATION

Theories of the process of mass communication and introduction to the mass media; attention will be given to problems of censorship and media ethics. Analysis of the mass media's impact on society; emphasis will be placed on the social, psychological, and political implications of the media's shaping influence on man and institutions.

#### 211 FUNDAMENTALS OF ORAL COMMUNICATION

The dynamics of oral communication. The development of elementary principles of simple oral communication through lectures, prepared assignments in speaking, and informal class exercises. Utilizes video-tape sequences for feedback to students.

#### 215 INTRODUCTION TO MEDIA WRITING

Analysis of and practice in the basic forms of media writing: the elements of lead, style and structure. Frequent workshop sessions for detailed critiques and discussion of student writing. *Prerequisites: A grade of C or better in English 106 or consent of the instructor.*

#### 218 RADIO PROGRAMMING AND PRODUCTION

Contemporary broadcast programming techniques including station scheduling, program development and analysis, and implementation in real and hypothetical situations. Emphasis on management functions.

#### 224 TELEVISION PRODUCTION

Technical, aesthetic, organizational, and business aspects of video programs. Study and use of basic equipment to produce standard formats on videotape.

#### 226 LITERATURE, FILM AND TELEVISION

The relationship between the conventions of literature, film and television with emphasis on examination of representative works. Media comparison to reveal the

problems of adaptation. *Prerequisite: English 106 or consent of instructor.*

#### 247-249 PRACTICUM IN MASS COMMUNICATION

Utilization of mass communication principles, techniques and skills in an applied setting through work experience, primarily with campus media. Students will write, produce and report news for print (Mass Comm 247), radio (Mass Comm 248) and television (Mass Comm 249) outlets. *One-hour credit. P/F grade. One may be repeated once for credit. Limit of one hour credit per semester. Prerequisite: Consent of the instructor.*

#### 323 WRITING FOR SPECIAL AUDIENCES

Intensive practice in writing with a purpose and in presenting information related to the student's interests to different kinds of audiences. Includes training in the use of graphics and in library research applicable to defined topics and audiences. Designed for Mass Communication students but open to others. *Prerequisite: a grade of C or better in Mass Communication 215 or consent of instructor.*

#### 325 WRITING FOR BUSINESS AND PUBLIC RELATIONS

Analyzing media and audiences for public relations and business purposes; planning, designing, and writing business reports and procedures; press relations and publicity methods; the news feature and publicity release. Includes training in library research related to business communications and public relations. *Prerequisite: a grade of C or better in Mass Communication 215 or consent of instructor.*

#### 327 PRINT JOURNALISM

Techniques in reporting news and trends at the local, regional, and county levels; emphasis on writing the longer news and feature article, the editorial, and the investigative news story. *Prerequisite: A grade of C or better in Mass Communication 215 or consent of the instructor.*

#### 329 BROADCAST JOURNALISM

Study of, and practical experience in, the newsgathering process for electronic media. Emphasis on covering the local story from the small-station perspective. Students in the course are responsible for writing, producing, editing and broadcasting newscasts for WRLC-FM. The course also looks at the special ethical problems of electronic news coverage. *Prerequisites: Mass Communication 215 and Mass Communication 218 or consent of instructor.*

#### 330 THEORIES AND ISSUES IN MASS COMMUNICATION

An analysis of current theories dealing with

mass communication systems and the behavior and attitudes of, and effects on, their audiences. The course also examines contemporary mass media issues with an emphasis on developing critical thinking skills. *Prerequisites: Mass Communication 110.*

#### 331 MASS MEDIA LAW AND REGULATION

An examination of the legal structure and the system by which mass communication is controlled in this society. The forces which shape, influence, and make policy will be considered. *Cross-listed as Political Science 436. Prerequisite: junior or senior standing or consent of instructor.*

#### 470-479 INTERNSHIP (See index)

Interns usually work off campus in a field related to their communication sequence. *Prerequisite: Four semesters of Mass Communication Practicum or consent of the instructor.*

#### N80-N89 INDEPENDENT STUDY (See index)

Studies involve research related to the communication sequence of the student.

#### 490-491 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See index)

### Graphic Arts

Through special arrangements, the following course offered at the Williamsport Area Community College is available *only* to students in the Mass Communication major and in the Art Track III major in Commercial Design. The WACC course is taken as part of the student's schedule and is listed with Lycoming offerings during registration periods.

#### 511 LAYOUT AND DESIGN

Analysis of materials, tools, and techniques used in preparation of copy for reproduction; paste-up and color separation overlays. 3 credit hours.

### MATHEMATICAL SCIENCES

Associate Professors: Haley, Sprechini  
 Assistant Professors: Bucki, deSilva, Golshan, Weida, Yan  
 Part-time Instructor: Davis

The Department of Mathematical Sciences offers major programs in computer science and mathematics.

### Computer Science

A major in computer science consists of 11 courses: Mathematics 116, 128, and 129, and Computer Science 125, 246, 247, 321, 344, 445, and two other computer science courses numbered 320 or above. Recommended extradepartmental courses: Physics 229, Philosophy 225, and Psychology 337. In addition to the regular courses listed below, special courses are occasionally available.

A minor in computer science consists of Computer Science 246, 247, and two other computer science courses numbered 220 or above.

#### 108 MATHEMATICAL PROBLEM SOLVING WITH MICROCOMPUTERS

An introduction to the use of microcomputer-based, integrated software in solving problems from mathematics and related areas. Included are uses of spreadsheet, data-base and graphics functions to analyze, solve, and display solutions to problems from the areas of number theory, algebra, geometry, statistics, and the mathematics of business and finance. Emphasis is given to the processes involved in mathematical modeling. Laboratory experience is included using current software. *Prerequisite: Credit for or exemption from Mathematics 005.*

#### 125 INTRODUCTION TO COMPUTER SCIENCE

Introduction to programming. Topics include algorithms, program structure, and computer configuration. Laboratory experience is included, most recently using Pascal and the Karel simulation package. *Prerequisite: credit for or exemption from Mathematics 005.*

#### 246 PRINCIPLES OF ADVANCED PROGRAMMING

Principles of effective programming, including structured programming, stepwise refinement, assertion proving, style, debugging, control structure, decision tables, finite state machines, recursion, and encoding. Utilities most recently used include SVS Pascal, the UNIX operating system C, and Shell programming. *Prerequisite: A grade of C or better in Computer Science 125 or consent of instructor.*

#### 247 DATA STRUCTURES

Representation of data and algorithms associated with data structures. Topics in-

clude representation of lists, trees, graphs and strings, algorithms for searching and sorting. *Prerequisite: A grade of C or better in Computer Science 246 or consent of instructor. Corequisite: Mathematics 116.*

#### 321 INTRODUCTION TO NUMERICAL ANALYSIS

Topics from the theory of interpolation; numerical approaches to approximating roots and functions, integration, systems of differential equations, linear systems, matrix inversion, and the eigenvalue problem. *Prerequisite: Computer Science 125 and Mathematics 129; Mathematics 130 strongly recommended.*

#### 344 MACHINE LANGUAGE

Principles of machine language programming; computer organization and representation of numbers, strings, arrays, and list structures at the machine level; interrupt programming, relocatable code, linking loaders; interfacing with operating systems. *Prerequisite: a grade of C or better in Computer Science 246 or consent of instructor.*

#### 345 INTRODUCTION TO COMPUTER GRAPHICS

An introduction to graphics hardware and software with emphasis on the mathematics necessary to represent, transform, and display images of two and three dimensional objects. Laboratory exercises will be designed to explore the capabilities of the graphics system and to test the students' understanding of the principles discussed in class. *Prerequisite: Computer Science 246 and either Computer Science 247 or permission of the instructor; Mathematics 130 recommended. Alternate years.*

#### 349 DATABASE SYSTEMS

External storage structures, hashed files, indexed files; relational, network, and hierarchical data models; relational algebra and the relational calculus; design theory for relational databases; query optimization; concurrent operations; database protection. *Prerequisite: Computer Science 247. Alternate years.*

#### 445 SYSTEMS PROGRAMMING

The emphasis in this course is on the algorithms used in programming the various parts of a computer system. These parts include assemblers, loaders, editors, interrupt processors, input/output schedulers, processor and job schedulers, and memory managers. *Prerequisite: Computer Science 247 and 344.*

#### 446 COMPILER CONSTRUCTION

The emphasis in this course is on the construction of translators for programming lan-

guages. Topics include lexical analysis, block structure, grammars, parsing, program representation, and run-time organization. *Prerequisite: Computer Science 247. Alternate years.*

#### 470-479 INTERNSHIP (See index)

#### N80-N89 INDEPENDENT STUDY (See index)

#### 490-491 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See index)

### Mathematics

A major in mathematics consists of 10 unit courses in the mathematical sciences and four semesters of non-credit colloquia: Computer Science 125, Mathematics 128, 129, 130, 234, 238, 432, 434, and two other mathematics courses numbered 220 or above, one of which may be replaced by Mathematics 112, 116, or 214; four semesters of Mathematics 339 or 449 taken during the junior and senior years.

Majors are required to attend the colloquia during their junior and senior years (339 and 449 respectively). See the course description of Mathematics 339-449 for further information regarding the colloquium requirement.

Students seeking secondary certification in mathematics are required to complete Mathematics 330 and 336 and are advised to enroll in Philosophy 117. Also, all majors are advised to elect Philosophy 225 and 333, Physics 225 and 226.

In addition to the regular courses listed below, special courses are occasionally available.

A minor in *Mathematics* consists of Mathematics 128, 129, 234, 238, and two additional courses numbered 130 or above.

#### 005 INDIVIDUALIZED LABORATORY INSTRUCTION IN BASIC ALGEBRA

A self-paced study of arithmetic and decimal numerals, fractions, the real number line, factoring, solutions to linear and quadratic equations, graphs of linear and quadratic functions, expressions with rational exponents, algebraic functions, exponential functions, and inequalities. **THIS COURSE IS LIMITED TO STUDENTS PLACED THEREIN BY THE MATHEMATICS DEPARTMENT.** *One-half unit of credit.*

- 103 INTRODUCTION TO STATISTICS**  
Empirical distributions of measurements, probability and random variables, discrete and continuous probability distributions, statistical inference from small samples, linear regression and correlation, analysis of enumerative data. *Prerequisite: credit for or exemption from Mathematics 005.*
- 105 MATHEMATICS IN ELEMENTARY EDUCATION**  
This course is intended for prospective elementary school teachers and is required of all those seeking elementary certification. Topics include systems of numbers and of numeration, computational algorithms, environmental and transformation geometry measurement, and mathematical concept formation. Observation and participation in Greater Williamsport elementary schools. *Corequisite: any education course numbered 341 or above which is specifically required for elementary certification or consent of instructor.*
- 107 PRECALCULUS MATHEMATICS**  
The study of logarithmic, exponential, trigonometric, polynomial, and rational functions, their graphs, and elementary properties. *Prerequisite: credit for or exemption from Mathematics 005.*
- 109 INTRODUCTION TO CALCULUS**  
An intuitive approach to the calculus concepts with applications to business, biology, and social-science problems. Not open to students who have completed Mathematics 128. *Prerequisite: credit for or exemption from Mathematics 005.*
- 112 FINITE MATHEMATICS FOR DECISION MAKING**  
An introduction to some of the principal mathematical models, not involving calculus, which are used in business administration, social sciences, and operations research. The course will include both deterministic models such as graphs, networks, linear programming and voting models, and probabilistic models such as Markov chains and games. *Prerequisite: credit for or exemption from Mathematics 005.*
- 116 DISCRETE MATHEMATICS**  
An introduction to discrete structures. Topics include equivalence relations, partitions and quotient sets, mathematical induction, recursive functions, elementary logic, discrete number systems, elementary combinatorial theory, and general algebraic structures emphasizing semi-groups, groups, lattices, Boolean algebras, graphs and trees. *Prerequisite: Computer Science 125 or consent of instructor.*
- 128-129 CALCULUS WITH ANALYTIC GEOMETRY I & II**  
Differentiation and integration of algebraic and trigonometric functions, conic sections and their applications, graphing plane curves, applications to related rate and external problems, areas of plane regions, volumes of solids of revolution, and other applications; differentiation and integration of transcendental functions, parametric equations, polar coordinates, infinite sequences and series, and series expansions of functions. *Prerequisite for 128: exemption from or a grade of C or better in Mathematics 107. Prerequisite for 129: exemption from or a grade of C or better in Mathematics 128 or consent of instructor.*
- 130 INTRODUCTION TO MATRIX ALGEBRA**  
Systems of linear equations and matrix arithmetic. Points and hyperplanes infinite dimensional geometries. Bases and linear independence. Matrix representations of linear mappings. The fixed point problem. Special classes of matrices. *Prerequisite: Mathematics 107 or its equivalent.*
- 214 MULTIVARIATE STATISTICS**  
The study of statistical techniques used in experimental designs where more than one random variable is involved. Techniques include analysis of variance, analysis of covariance, multiple regression and correlation, factor analysis and canonical correlations, contingency tables, discriminative analysis, and non-parametric techniques. Further topics will be chosen from cluster analysis, time series analysis, and repeated measure analysis. Extensive use of a statistical package is made (currently BMDP). *Prerequisite: Mathematics 103 or its equivalent.*
- 231 DIFFERENTIAL EQUATIONS**  
A study of ordinary differential equations and linear systems. Solution techniques include: reduction of order, underdetermined coefficients, variation of parameters, Laplace transforms, power series, and eigenvalues and eigenvectors. A brief discussion of numerical methods may also be included. *Prerequisite: a grade of C or better in Mathematics 129; Mathematics 130 recommended.*
- 233 COMPLEX VARIABLES**  
Complex numbers, analytic functions, complex integration, Cauchy's theorems and their applications. *Corequisite: Mathematics 238. Alternate years.*
- 234 FOUNDATIONS OF MATHEMATICS**  
Topics regularly included are the nature of mathematical systems, essentials of logical reasoning, and axiomatic foundations of set theory. Other topics frequently included are approaches to the concepts of infinity and continuity, and the construction of the real number system. The course serves as a bridge from elementary calculus to advanced courses in algebra and analysis. *Prerequisite: Mathematics 129 or consent of instructor.*
- 238 MULTIVARIABLE CALCULUS**  
Algebra, geometry, and calculus in multi-dimensional Euclidean space; n-tuples, matrices; lines, planes, curves, surfaces; vector functions of a single variable, acceleration, curvature; functions of several variables, gradient; line integrals, vector fields, multiple integrals, change of variable, areas, volumes; Green's theorem. *Prerequisites: a grade of C or better in Mathematics 129, Mathematics 130 or consent of instructor.*
- 321 INTRODUCTION TO NUMERICAL ANALYSIS**  
Topics from the theory of interpolation; numerical approaches to approximating roots and functions, integration, systems of differential equations, linear systems, matrix inversion, and the eigenvalue problem. *Prerequisite: Computer Science 125 and Mathematics 129; Mathematics 130 strongly recommended.*
- 330 TOPICS IN GEOMETRY**  
An axiomatic treatment of Euclidean geometry, and an introduction to related geometries. *Prerequisite: Mathematics 128. Alternate years.*
- 332-333 MATHEMATICAL STATISTICS I-II**  
A study of probability, discrete and continuous random variables, expected values and moments, sampling, point estimation, sampling distributions, interval estimation, test of hypotheses, regression and linear hypotheses, experimental design models. *Corequisite: Mathematics 238. Alternate years.*
- 336 CONCEPTS OF MATHEMATICS IN SECONDARY EDUCATION**  
A course designed for mathematics majors who are planning to teach at the secondary level. Emphasis will be placed on the mathematics that form the foundation of secondary mathematics. Ideas will be presented to familiarize the student with various curriculum proposals, to provide for innovation within the existing curriculum, and to expand the boundaries of the existing curriculum. *Open only to junior and senior mathematics majors enrolled in the secondary-education program. Alternate years.*
- 338 OPERATIONS RESEARCH**  
Queuing theory, including simulation tech-

niques; optimization theory, including linear programming, integer programming, and dynamic programming; game theory, including two-person zero-sum games, cooperative games, and multiperson games. *Prerequisite: Mathematics 112 or Mathematics 130. Alternate years.*

#### 432 REAL ANALYSIS

An introduction to the rigorous analysis of the concepts of real variable calculus in the setting of normed spaces. Topics from: topology of the Euclidean plane, completeness, compactness, the Heine-Borel theorem; functions on Euclidean space, continuity, uniform continuity, differentiability; series and convergence; Riemann integral. *Prerequisite: Mathematics 234 and 238.*

#### 434 MODERN ALGEBRA

An integrated approach to groups, rings, fields, and vector spaces and functions which preserve their structure. *Prerequisite: Mathematics 130 and 234.*

#### 438 SEMINAR

Topics in modern mathematics of current interest to the instructor. A different topic is selected each semester. This semester is designed to provide junior and senior mathematics majors and other qualified students with more than the usual opportunity for concentrated and cooperative inquiry. *Prerequisite: consent of instructor. One-half unit of credit. This course may be repeated for credit.*

#### 339 & 449 MATHEMATICS COLLOQUIA

This non-credit but required course for junior and senior mathematics majors offers students a chance to hear presentations on topics related to, but not directly covered in formal mathematics courses. Students are required to attend colloquia each semester of their junior (339) and senior (449) years. Mathematics majors must present two lectures, one during the junior year and one during the senior year. A letter grade will be given in semesters in which the student gives a presentation, otherwise the grade will be P/F. Seniors are strongly encouraged to give their presentations during the fall semester. Students applying for the professional semester in education are required to give the first presentation before the eighth week of the fall semester of their junior year, and the second presentation before the eighth week of the fall semester of their senior year. With Departmental approval, students will be required to take three semesters of 339 or 449; such approval is granted only in extraordinary circumstances and will require the student to give one presentation in each of the three semesters. Noncredit course. One hour per week.

470-479 INTERNSHIP (See index)

N80-N89 INDEPENDENT STUDY  
(See index)

490-491 INDEPENDENT STUDY FOR  
DEPARTMENTAL HONORS  
(See index)

## MUSIC

Associate Professors: Boerckel  
(Chairperson), Thayer

Instructor: Janda

Part-time Instructors: Bailey, Clark,  
Feist, Lakey Nacinovich, Russell,  
Shaffer, Steele, White, and Zdzienski

The music major is required to take a balanced program of music theory, history, applied and ensemble. A minimum of eight courses (exclusive of all ensemble, applied music and instrumental and vocal methods courses) is required and must include Music 110, 111, 220, 221, 335 and 336. Each major must participate in an ensemble (Music 167, 168 and/or 169) and take one hour of applied music per week for a minimum of four semesters including the entire period in which the individual is registered as a music major (see Music 160-169). The major must include at least one-half hour of piano in the applied program unless a piano proficiency test is requested and passed. Anyone declaring music as a second major must do so by the beginning of the junior year.

Music majors seeking certification in music education (K-12) must also take Psychology 110 and 338; Education 200 and the Professional Semester; Music 261-7, 331, 332, 446 and pass the piano proficiency examination. Students who wish to obtain certification in music education should consult with the department as soon as possible, preferably before scheduling classes for the freshman year.

The Music Department recommends that non-majors select courses from the following list to meet distribution requirements: Music 116, 117; Music 118, 119; Music 113 or Music 224 in com-

bination with 116, 117, 118 or 119.

Student recitals offer opportunities to gain experience in public performance. Music majors and other students qualified in performance may present formal recitals.

#### 110-111 MUSIC THEORY I AND II

A two-semester course open to all students. An examination of the fundamental components and theoretical concepts of music. The student will develop musicianship through application of applied skills. (*Music 110 is prerequisite to Music 111*).

#### 113 MUSIC OF TODAY

Non-technical survey of styles, techniques and contents of music produced since 1950, with emphasis on developments in electronic music. Leading figures of major contemporary movements in music, literature and the visual arts and their works will be presented and discussed in relation to musical culture. The course will include some practical exposure to the electronic music studio and recording techniques.

#### 116 INTRODUCTION TO MUSIC

A basic course in the materials and techniques of music. Examples drawn from various periods and styles are designed to enhance perception and appreciation through careful and informed listening.

#### 117 SURVEY OF WESTERN MUSIC

A chronological survey of music in Western civilization from Middle Ages to the present. Composers and musical styles are considered in the context of the broader culture of each major era.

#### 118 AMERICAN MUSIC I

For the major or non-major interested in studying all types of American music, from pre-Revolutionary days through World War I. Areas explored will include Indian, African, and European roots influencing the serious music for small and large ensembles, the development of show music from minstrels to Broadway musicals, the evolution of "Tin Pan Alley," and the beginnings of jazz. *Alternate years.*

#### 119 AMERICAN MUSIC II

For the major or non-major interested in studying all types of American music. American Music II will cover post-World War I days to the present. Areas explored will include indigenous serious music for small and large ensembles, the mature Broadway musical, the evolution of jazz, the development of rock, and the fusion of musical styles in the 1970's. *Alternate year.*

## 220-221 MUSIC THEORY III AND IV

A continuation of the integrated theory course moving toward newer uses of music materials. *Prerequisite: Music 111.*

## 224 ELECTRONIC MUSIC I

A non-technical introduction to electronic music and MIDI (Musical Instrument Digital Interface) for the major and non-major alike. The course traces the development of MIDI from its origin to present-day digital synthesizers in combination with sequencing computers.

## 225 ELECTRONIC MUSIC II

Further consideration of recording techniques. Use of microphones, multi-track recording, mixing, special effects devices and synchronization will be introduced. Students will take part in live recording of concerts and rehearsals of a variety of ensembles. Student projects will include complete recording sessions and the production of electronic music compositions utilizing classical studio techniques and real-time networks. *Prerequisite: Music 224 or consent of instructor. Alternate years.*

## 330 COMPOSITION I

Creative writing in smaller vocal and instrumental forms. Students identify and use the techniques employed by major composers of the 20th century. *Prerequisite: Music 111 or consent of instructor.*

## 331 CONDUCTING

A study of the fundamentals of conducting with frequent opportunity for practical experience. The College music organizations serve to make performance experience possible. *Prerequisite: Music 110-111 or consent of instructor. Alternate years.*

## 332 TEACHING MUSIC IN THE SCHOOLS

Methods and materials of teaching music in the schools with emphasis on curriculum development and procedures for choral and instrumental ensembles at the elementary and secondary levels. Course work will include observation of music classes in elementary and secondary schools in the greater Williamsport area. *Alternate years.*

## 335 HISTORY OF WESTERN MUSIC I

The development of musical styles and forms from Gregorian chant through Mozart, including composers from the medieval, Renaissance, baroque and early classical eras.

## 336 HISTORY OF WESTERN MUSIC II

The development of musical styles and forms from Beethoven to the present, including composers from the late classical, romantic and modern eras.

## 339 ORCHESTRATION

A study of modern orchestral instruments and examination of their use by the great masters with practical problems in instrumentation. The College music organizations serve to make performance experience possible. *Prerequisite: Music 110-111 or consent of instructor. Alternate years.*

## 440 COMPOSITION II

Creative writing in larger vocal and instrumental forms. Students write more extended works in order to develop an individual style of composition. *Prerequisite: Music 330 or consent of instructor.*

## 442 PROJECTS IN ELECTRONIC MUSIC

Digital techniques of Electronic Music production. Notation systems for electronic music. Aesthetics of electronic music. Students will use the full resources of the studio to complete original compositions and will study, prepare and present works by major composers of electronic music. *Prerequisite: Music 225 or consent of instructor.*

## 445 SPECIAL TOPICS IN MUSIC

The intensive study of a selected area of music literature, designed to develop research techniques in music. The topic is announced at the Spring pre-registration. Sample topics include: Beethoven, Impressionism, Vienna 1900-1914. *Prerequisite: Music 116, 117 or 221 or consent of instructor.*

## 446 RECITAL

The preparation and presentation of a full-length public recital, normally during the student's senior year. *Prerequisite: approval by the department. May be repeated for credit.*

## 470-479 INTERNSHIP (See index)

## N80-N89 INDEPENDENT STUDY (See index)

## 490-491 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See index)

### Applied Music and Ensemble

The study of performance in piano, harpsichord, voice, organ, strings, guitar, brass, woodwinds, and percussion is designed to develop sound technique and a knowledge of the appropriate literature for the instrument. Student recitals offer opportunities to gain experience in public performance.

Credit for applied music courses (private lessons) and ensemble (choir, orchestra and band) is earned on a fractional basis. One half-hour lesson per week earns ½ hour credit; one hour lesson per week earns one hour credit. Ensemble credit totals one hour credit if a student enrolls for one or two ensembles (for

more information, see course descriptions below). When scheduling please note that an applied course or ensemble should not be substituted for an academic course, but should be taken in addition to the normal four academic courses.

Extra fees apply for private lessons (Music 60-66) as follows:

\$145 per semester for a half-hour lesson per week. \$290 per semester for an hour lesson per week. Private lessons are given for 13 weeks. 160 Piano or Harpsichord, 161 Voice, 162 Strings or Guitar, 163 Organ, 164 Brass, 165 Woodwinds, 166 Percussion.

## 167 ORCHESTRAL ENSEMBLE

The Williamsport Symphony Orchestra allows students with significant instrumental experience to become members of this regional ensemble. Participation in the W.S.O. is contingent upon audition and the availability of openings. Students are allowed a maximum of one hour of Ensemble credit per semester. A student who is enrolled in orchestra only should register for Music 167B (one hour credit). A student may belong to two ensembles, choosing either Choir or Wind Ensemble as the second group. Such a student will then register for Music 167A (½ hour credit) plus either Music 168A (½ hour credit) or Music 169A (½ hour credit).

## 168 CHORAL ENSEMBLE (CHOIR)

Participation in the College choir is designed to enable any student possessing at least average talent an opportunity to study choral technique. Emphasis is placed upon acquaintance with choral literature, tone production, diction, and phrasing. Students are allowed a maximum of one hour of Ensemble credit per semester. A student who is enrolled in Choir only should register for Music 168B (one hour credit). A student may belong to two ensembles, choosing either Orchestra or Wind Ensemble as the second group. Such a student will then register for Music 168A (½ hour credit) plus either Music 167A (½ hour credit) or Music 169A (½ hour credit). If a student has auditioned and been selected for the twenty voice Chamber Choir (no credit available), he/she should register for Music 168C.

## 169 WIND ENSEMBLE (BAND)

The College Wind Ensemble allows students with some instrumental experience to become acquainted with good band literature and develop personal musicianship through participation in group instrumental activity. Students are allowed a maximum of one hour of Ensemble credit per semester. A student who is enrolled in Band only should register for Music 169B (one hour credit). A student may belong to two ensembles, choosing either Orchestra or Choir as the second

group. Such a student will then register for Music 169A (½ hour credit) plus either Music 167A (½ hour credit) or Music 168A (½ hour credit).

#### INSTRUMENTAL AND VOCAL METHODS

Instrumental and vocal methods classes are designed to provide students seeking certification in music education with a basic understanding of all standard band and orchestral instruments as well as a familiarity with fundamental techniques of singing.

Music 261:	Brass Methods (one hour credit)
Music 262:	Percussion Methods (one hour credit)
Music 263, 264:	String Methods I and II (one hour credit each)
Music 265:	Vocal Methods (one hour credit)
Music 266, 267:	Woodwind Methods I and II (one hour credit each)

#### NEAR EAST CULTURE AND ARCHAEOLOGY

Professor: Guerra (Coordinator)

The Near East culture and archaeology interdisciplinary major is designed to acquaint students with the "cradle of Western civilization," both in its ancient and modern aspects. Majors will complete a minimum of eight to ten courses related to the Near East.

Required courses are described in their departmental sections and include:

1. Four courses in language and culture from:

- History and Culture of the Ancient Near East (Religion 228)
- History of Art (Art 222)
- Ancient History (History 210)
- Old Testament Faith and History (Religion 113)
- Judaism and Islam (Religion 224)
- Two semesters of foreign language (Hebrew 101-102, or Greek 101-102)

2. Two courses in archaeology from: Biblical Archaeology (Religion 226) Special Archaeology courses, such as independent studies or in May or summer terms in the Near East.

3. Two courses in the cooperating departments (art, history, political science,

religion and sociology-anthropology) or related departments. These two courses, usually taken in the junior or senior years, can be independent study. Topics should be related either to the ancient or the modern Near East and must be approved in advance by the committee supervising the interdisciplinary program. The study of modern Arabic or Hebrew is encouraged.

Other courses may be suggested by the supervisory committee within the limits of a 10-course major. The number of courses taken within this program applicable toward fulfilling the College distribution requirements will vary according to the selection of courses.

#### NURSING

Associate Professor: Parrish  
(Chairperson)

Assistant Professors: Kasputis, Pagana  
Instructors: Ficca, Maritin, Gray-Vickrey  
(on leave)

Part-time Instructors: Bird, Gabriel,  
McKeegan

Students wishing to major in nursing will be admitted to the College under the usual admission procedures. Freshmen should follow the nursing curriculum plan for the freshman year in the sequence designated. To be considered for continuation in nursing, a minimum G.P.A. of 2.5 is required at completion of the freshman year. A supplementary application should be submitted to the Department of Nursing by January 30 of the freshman year.

#### Registered Nurses

The Department of Nursing offers an alternative curriculum for registered nurses within the existing BSN program. The goals of this alternative curriculum are to provide registered nurses with the opportunity to earn an educationally sound BSN degree while completing the degree requirements in as short a time period as possible, and to meet the unique needs of registered nurses. Nursing 300 and 310 are open only to registered

nurses and are required as part of the alternative curriculum. Registered nurses may challenge for credit the following nursing courses: Nursing 220, the skills component of Nursing 221, the obstetrical component of Nursing 330, 331, 332, 333, 334, and 440. For successful challenge of any clinical nursing course by registered nurses, a grade of C- or better is required; that is, 70% or 1.67 is required in both the theoretical and clinical components of the course.

In addition, registered nurses in this program may challenge for credit any required nonnursing course provided that they obtain the permission of both the Department of Nursing and the department in which that course is offered. These examinations may not be available for every required course.

Additional information for registered nurses seeking the BSN is available from the Department of Nursing. Individual advisement is offered to all registered nurses.

#### Clinical Learning Resources

In addition to the College's new well-equipped Nursing Skills Lab, opportunity for self-learning is provided in the adjacent Learning Center which is equipped with electronic study carrels and audio-visual materials.

A wide variety of health-care agencies in the surrounding area are utilized for clinical experiences. Cooperating hospitals and agencies include: Divine Providence Hospital, Williamsport Hospital and Medical Center, Evangelical Hospital, Geisinger Medical Center, Leader Nursing Home and Rehabilitation Center, Danville State Hospital, Pennsylvania Department of Health, Regional Home Health Services, and The Williamsport Home.

#### Expenses of the Nursing Program

Students are responsible for their own transportation to assigned clinical areas. The student of nursing assumes all financial obligations listed in the section on fees in this bulletin including a \$40 lab fee for each of the clinical nursing courses (Nursing 221, 310, 330, 331, 332, 333, 440 and 441). Additional ex-



penses include uniforms, name pin, watch with second hand, bandage scissors, stethoscope, blood pressure cuff, liability insurance, annual health examinations, and standardized achievement tests.

### Major in Nursing

The major in nursing consists of: Nursing 220, 221, 330, 331, 332, 333, 334, 336, 435, 440, 441, 442, and nursing elective (420, 422, 430 or 443) or N80-N89. In addition, the following are prerequisites for specific nursing courses: Chemistry 108, 115; Biology 113-114, 226; Psychology 110, 117; Mathematics 103, and Computer Science elective CPTR 108, 125, or Math 214. The religion/philosophy distribution requirement is met by the required courses: Philosophy 219 and Religion 120. The history/social science distribution requirement is met by the required courses: Psychology 110 and 117. In addition, the student is required to take our course from among Sociology/Anthropology 110, 114, 220, 222, 224, 227, 228, 229, 331, 334, and 335. The fine arts/foreign language distribution requirement can be met by two courses in one department from among art, literature, music, or theatre; or by two courses in foreign language on the intermediate or higher course level.

### School Nurse Certification

The Department of Nursing, in collaboration with the Department of Education, offers an additional curriculum for the Registered Nurse with a Bachelors degree (or a Lycoming College nursing student) who wishes to be certified as a school nurse. The goal of this program is to provide the RN with a Bachelors degree an opportunity for career mobility. Courses required for completion of the certification program consist of: Education 200 and 239, Philosophy 217, Psychology 338, and Nursing 420, 422, 430, and 431. In addition, the following are prerequisites for specific courses: Psychology 110 and 117, Sociology \*\*\*, and Nur 220.

Additional information for registered nurses seeking School Nurse Certification is available from the Department of Nursing. Individualized advisement is offered to all prospective School Nurse candidates.

### Policies Specific to Nursing

In addition to the Lycoming College continuance policies, the following policies are specific to all declared majors in the Department of Nursing:

1. A grade of C – or better is required in all clinical nursing courses to continue in the nursing program. These courses are Nursing 221, 310, 330, 331, 332, 333, 440 and 441. Students who earn a grade of less than 70 percent or 1.67 in either the theoretical or clinical component of a nursing course will be required to repeat both components of the course before being permitted to continue in the nursing sequence.

2. Policies regarding absence from classes or from the clinical portion of nursing courses are determined by the instructor(s) responsible for the course. No absence from the clinical portion of the course will be excused other than for illness or family emergency with one exception. In individual cases, students may make arrangements with instructors to be excused for extracurricular activities. Excessive absences for any reason will necessitate repeating the entire course.

### Typical Plan of Study for B.S.N.

#### FRESHMAN YEAR

##### Fall

Chem. 108*(Inorganic Chemistry) .....	1
Eng. 106 (Composition) .....	1
Psych. 110*(Intro to Psych.) ...	1
Fine Arts/Lang. ....	1
Physical Education .....	0
	<hr/> 4

##### Spring

Chem. 115*(Brief Organic Chemistry) .....	1
Eng. Elective .....	1

Psych. 117*(Developmental Psych.) .....	1
Fine Arts/Lang. ....	1
Physical Education .....	0
	<hr/> 4

#### SOPHOMORE YEAR

##### Fall

Bio. 113 (Anatomy and Physiology) .....	1
Computer Science Elective**	
Nur. 220 (Concepts of Nutrition in Family Health) .....	.75
Rel. 120 (Death and Dying) .	1
	<hr/> 3.75

##### Spring

Bio. 114 (Anatomy and Physiology) .....	1
Math 103 (Intro. to Statistics) .....	1
Bio. 226 (Microbiology for Health Sciences) ...	1
Nur. 221 (Foundations of Professional Practice) .....	1.25
	<hr/> 4.25

#### JUNIOR YEAR

##### Fall

Nur. 330 (Nursing Care of the Developing Family I) .....	1.5
Nur. 332 (Nursing Care of the Adult I) .....	1.5
Nur. 334 (Basic Concepts of Pharmacology and Therapeutics) .....	1
	<hr/> 4

##### Spring

Nur. 331 (Nursing Care of the Developing Family II) .....	1.5
Nur. 333 (Nursing Care of the Adult II) .....	1.5
	<hr/> 3

##### May Term

Nur. 336 (The Nurse in the Social System) .....	1
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## SENIOR YEAR

### Fall

Nur. 435	(Nursing Research) .....	1
Nur. 440	(Nursing Care of the Emotionally Troubled Individual & Family) .....	1.5
Nursing Elective***	.....	.5
Guided Elective****	.....	1
		<hr/> 4

### Spring

Nur. 441	(Comprehensive Nursing Care) .....	1.5
Nur. 442	(Professional Issues) .....	.5
Phil. 219	(Ethical Issues in Biology and Medicine) .....	1
Elective	.....	1
		<hr/> 4

\*Prerequisite to Sophomore year.

\*\*Student must select one course from CPTR 108, 125 or Math 214.

\*\*\*Student must select one course from NUR 420, 422, 430, 443, or N80-89.

\*\*\*\*Student must select one course from Soc. 110, 114, 220, 222, 224, 227, 228, 229, 331, 334, or 335. Other courses may be approved on an individual basis. Requirement for Graduation: 32 Units (128 Credits).

The student may take additional units for electives, independent study and/or honors.

#### 220 CONCEPTS OF NUTRITION IN FAMILY HEALTH

Essentials of normal nutrition and their relationship to the health of individuals and families. These concepts serve as a basis for the development of an understanding of therapeutic application of dietary principles and the health professional's role and responsibility in this facet of client care. *Three hours of lecture. 3/4 unit. Prerequisites: Chemistry 108, 115, or consent of instructor. Open to non-nursing majors.*

#### 221 FOUNDATIONS OF PROFESSIONAL NURSING PRACTICE

Introduction of major theoretical elements underlying professional nursing practice.

Focus on the concept of health and common health problems recognizing the multi-directional influence of the individual, family, and environment. In this first clinical course the student will utilize the nursing process in assisting clients to attain a maximum level of functioning. *Three hours of lecture and five hours clinical laboratory. 1 1/4 units. Prerequisites: Chemistry 108, 115, Nursing 220, and Biology 113. Open to nursing majors only.*

#### 300 THEORETICAL FOUNDATIONS OF PROFESSIONAL NURSING

*Theoretical concepts underlying professional practice. Additional focus on health and common health problems, recognition of multi-directional influence of the individual, family, and environment. Two hour seminar. 1/2 unit. Prerequisites: Successful completion of Nursing 221 challenge examination. Chem 108, 115; Psych 110, 117; Bio 113. OPEN TO RNs ONLY.*

#### 310 PROCESSES ESSENTIAL TO NURSING PRACTICE

*Clinical focus on the incorporation of nursing, group, interpersonal, and change processes; therapeutic communication, family, health promotion and community concepts, physical assessment, collaboration, and teaching/learning principles in the community setting. 3/4 unit. Prerequisites: Successful completion of Nursing 330 and Nursing 332 challenge exams, Bio 114, and Bio 226. OPEN TO RNs ONLY.*

#### 330-331 NURSING CARE OF THE DEVELOPING FAMILY

Examination of health and nursing needs of beginning and developing families. Initial emphasis on nursing needs of mothers and infants within the family unit as well as the common health problems of children through adolescence. Subsequent emphasis on nursing needs of children and mothers with health problems of acute and long term nature, the influence of illness on their development and the effect of illness on the family configuration. *Three hours of lecture and 7 1/2 hours clinical laboratory. 1 1/2 units. Prerequisite for Nursing 330: Nursing 221, Biology 114, 226. Prerequisite for Nursing 331: Nursing 330 and 334.*

#### 332-333 NURSING CARE OF THE ADULT

Identification of adult health care needs and implementation of nursing activities based on an understanding of growth and development, pathophysiology, communication skills, interpersonal dynamics, and psychosocial interventions. *Three hours of lecture and 7 1/2 hours clinical laboratory. 1 1/2 units. Prerequisite for Nursing 332: Nursing 221, Biology 114 and 226. Corequisite: Nursing 334. Prerequisite for Nursing 333: Nursing 332 and 334.*

#### 334 BASIC CONCEPTS OF PHARMACOLOGY AND THERAPEUTICS

Fundamentals of pharmacology and therapeutics are presented for the various classes of drugs. Relationships of pharmacological mechanisms to the affected biochemical and physiological processes. Interactions and toxicological aspects of drug therapy are reviewed. *Four hours of lecture. 1 unit. Corequisite: Nursing 330, 332, or consent of instructor. Open to non-nursing majors.*

#### 336 THE NURSE IN THE SOCIAL SYSTEM

Seminar discussions and clinical laboratory using the hospital as a prototype. Theories of social systems. Examination of induction into the hospital system. Evaluation of standards of care. Focus on utilization of change theory. *Twelve hours of lecture and 96 hours of clinical laboratory. 1 unit. Prerequisites: Nursing 331, 333, 334. Required for the nursing major and offered only in May term.*

#### 420 HEALTH ASSESSMENT

Identification and examination of methods for collecting and categorizing accurate data necessary for professional care. Emphasis is placed on the individual throughout the life span with identification of clinical and behavioral findings appropriate to each age group. *Two hours of lecture for 1/2 unit. Two hours of lecture and a 5 hour clinical laboratory for 1 unit. Prerequisites: Senior standing or consent of instructor.*

#### 422 HEALTH EDUCATION

Examination of learning theories appropriate to all age groups. Discussion of the concepts and techniques necessary for assessment, planning, implementation and evaluation of the teaching/learning process. Emphasis will be placed on self-care. *Two-hour lecture for 1/2 unit. Two-hour lecture and a 5 hour clinical laboratory for 1 unit. School Nurse candidates should take the one-unit course. Prerequisites: Senior standing or consent of instructor.*

#### 430 COMMUNITY HEALTH NURSING

Overview of the role of the community health nurse in a variety of settings, e.g., industries, state health clinics, MHMR, school systems. Discussion of wellness promotion, availability of community resources, environmental health, prevention and treatment of communicable diseases, and group process with emphasis on communication skills. *Two hour lecture for 1/2 unit. Two hour lecture and a 5 hour clinical laboratory for 1 unit. School Nurse candidates must take the equivalent of one unit course. Prerequisites: Senior standing or consent of the instructor.*

#### 431 SCHOOL NURSE PRACTICUM

Essentials of school health, school nursing and health promotion. These concepts serve as a basis for the development of an understanding of the role of the school nurse. This course provides the student with the opportunity to function in the role of the school nurse. It is a course built on the culmination of knowledge obtained in previous nursing courses and nursing experiences. 210 hours clinical and seminar. 1½ unit. *Prerequisites: OPEN TO SCHOOL NURSE CANDIDATES who have met all other requirements for certification and have obtained departmental approval.*

#### 435 RESEARCH IN NURSING

Expansion of theoretical basis of research methodology with emphasis on analyzing, criticizing, and interpreting nursing research. Development of a research proposal focusing on a nursing problem. *Four hours of lecture. 1 unit. Prerequisite: Mathematics 103, Computer Science elective, and Nursing 330 and 332 or consent of instructor. Open to non-nursing majors.*

#### 440 NURSING CARE OF THE EMOTIONALLY TROUBLED INDIVIDUAL AND FAMILY

Examination of disturbed human relationships with focus on intrapsychic, interpersonal, and physiologic etiology. Emphasis on advanced therapeutic nurse-patient relationships within context of family, community, and health care systems. *Three hours of lecture and 7½ hours clinical laboratory. 1½ units. Prerequisites: Nursing 331, 333, 336.*

#### 441 COMPREHENSIVE NURSING CARE

Culminating nursing course with focus on leadership and management skills in a choice of clinical settings. Seminars provide opportunities for students to share commonalities and unique aspects of professional practice. *Three hours of lecture and 7½ hours of clinical laboratory. 1½ units. Prerequisites: Nursing 336, 440.*

#### 442 PROFESSIONAL ISSUES

An analysis of nursing issues in the context of the historical background of the profession, the social forces which influence nursing, and nursing's impact upon society. *Two-hour seminar. ½ unit. Prerequisite: Senior standing or consent of instructor.*

#### 443 TOPICS IN NURSING

Selected topic courses in nursing designed to permit students to pursue subjects which, because of their specialized nature, may not be offered on a regular basis. ½ unit. *Prerequisite: Senior standing or consent of instructor.*

#### N80-N89 INDEPENDENT STUDY IN NURSING

An opportunity to develop and implement an individual plan of study under faculty guidance. ½ unit. *Prerequisite: Senior standing or consent of chairperson.*

### PHILOSOPHY

Associate Professor: Griffith, Whelan  
Assistant Professor: Herring (Chairperson)

The study of philosophy develops a critical understanding of the basic concepts and presuppositions around which we organize our thought in science, religion, education, morality, the arts, and other human enterprises.

A major in philosophy, together with appropriate other courses, can provide an excellent preparation for policy-making positions of many kinds, for graduate study in several fields, and for careers in education, law, and the ministry. The major in philosophy consists of eight courses numbered 110 or above, including 438, 439, 449 and at least three other courses numbered 225 or above.

A minor in *Philosophy* consists of any four philosophy courses numbered 220 or above; or any five philosophy courses number 110 or above, three of which must be numbered 300 or above. Three more specialized minors are also available: a minor in *Philosophy and Law* consists of four courses from Philosophy 224, 225, 334, 335, 449 or Independent Studies or five courses including any three courses from the preceding list and any two courses from Philosophy 115, 216, 218, 219; a minor in *Philosophy and Science* consists of four courses from Philosophy 223, 225, 331, 333, 449 or Independent Studies; a minor in the *History of Philosophy* consists of four courses from Philosophy 223, 224, 438, 439, 449 or Independent Studies. Since topics in Philosophy 449 and independent studies projects vary, these courses may be used to count toward a specialized minor only if they are approved in advance by the department.

#### 105 PRACTICAL REASONING

A general introduction to topics in logic and their application to practical reasoning, with primary emphasis on detecting fallacies, evaluating inductive reasoning, and understanding the rudiments of scientific method.

#### 110 INTRODUCTION TO PHILOSOPHICAL PROBLEMS

An introductory course designed to show the nature of philosophy by examination of several examples of problems which have received extended attention in philosophical literature. These topics often include the relation of the mind to the body, the possibility of human freedom, arguments about the existence of God, the conditions of knowledge, and the relation of language to thought. Some attention is also given to the principles of acceptable reasoning.

#### 114 PHILOSOPHY AND PERSONAL CHOICE

An introductory philosophical examination of a number of contemporary moral issues which call for personal decision. Topics often investigated include: the "good" life, obligation to others, sexual ethics, abortion, suicide and death, violence and pacifism, obedience to the law, the relevance of personal beliefs to morality. Discussion centers on some of the suggestions philosophers have made about how to make such decisions.

#### 115 PHILOSOPHY AND PUBLIC POLICY

An introductory philosophical examination of the moral and conceptual dimension of various contemporary public issues, such as the relation of ethics to politics and the law, the enforcement of morals, the problems of fair distribution of goods and opportunities, the legitimacy of restricting the use of natural resources, and the application of ethics to business practice. Discussion centers on some of the suggestions philosophers have made about how to deal with these issues.

#### 216 ETHICAL ISSUES IN BUSINESS

An introductory philosophical examination of a variety of moral problems that arise concerning the American business system. Included are a systematic consideration of typical moral problems faced by individuals and an examination of common moral criticisms of the business system itself.

#### 217 PHILOSOPHICAL ISSUES IN EDUCATION

An examination of the basic concepts involved in thought about education, and a consideration of the various methods for justifying educational proposals. Typical of the issues discussed are: Are education and indoctrination different? What is a liberal education? Are education and schooling compatible? What do we need to learn? *Alternate years.*

218 PHILOSOPHICAL ISSUES  
IN CRIMINAL JUSTICE

An introductory examination of various philosophical issues and concepts which are of special importance in legal contexts. Discussion includes both general topics, such as the justification of punishment, and more specific topics, such as the insanity defense and the rights of the accused. Readings are arranged topically and include both classical and contemporary sources.

219 ETHICAL ISSUES IN  
BIOLOGY AND MEDICINE

A philosophical investigation of some of the ethical issues which arise as a result of contemporary medical and biological technology. Typical of these issues are euthanasia, behavior control, patient rights, experimentation on humans, fetal research, abortion, genetic engineering, population control, and distribution of health resources.

223 HISTORY OF SCIENCE  
AND METAPHYSICS

An historical survey of the attempt to understand the physical universe. Particular attention is paid to common origins of philosophy and science in the works of the ancient Greek philosophers, to the question of how scientific and philosophical thinking differs from mythological and technological thinking, to the rationalism empiricism dispute in science and metaphysics, and to the interaction between philosophy and science in the formulating fundamental questions about the physical universe and in developing and criticizing concepts designed to answer them. *Alternate years.*

224 HISTORY OF SOCIAL AND  
POLITICAL PHILOSOPHY

An historical survey of the most important social and political philosophers from Socrates to Marx. Special attention is paid to the relationship between ethics and politics as seen by Plato and Aristotle and to the social contract theories of Hobbes, Locke, and Rousseau. *Alternate years.*

225 SYMBOLIC LOGIC

A study of modern symbolic logic and its application to the analysis of arguments. Included are truth-functional relations, the logic of propositional functions, and deductive systems. Attention is also given to various topics in the philosophy of logic.

331 PHILOSOPHY AND HUMAN NATURE

An examination of a variety of classical and contemporary philosophical questions about human nature. Among the questions typically considered are these: Is there such a thing as human nature? Are human beings different, in any fundamental way, from other

animals? Are human beings free? Is human consciousness just a brain process? Are human beings inherently predisposed to evil? Are human beings biologically determined to be selfish or aggressive? Are the differences in achievement between men and women biologically based? *Prerequisite: Students without previous study in philosophy must have instructor's permission.*

332 PHILOSOPHY OF RELIGION

A philosophical examination of religion. Included are such topics as the nature of religious discourse, arguments for and against the existence of God, and the relation between religion and science. Readings from classical and contemporary sources. *Prerequisite: students without previous study in philosophy must have instructor's permission. Alternate years.*

333 PHILOSOPHY OF NATURAL SCIENCE

A consideration of philosophically important conceptual problems arising from reflection about natural science, including such topics as the nature of scientific laws and theories, the character of explanation, the import of prediction, the existence of "non-observable" theoretical entities such as electrons and genes, the problem of justifying induction, and various puzzles associated with probability. *Prerequisite: students without previous study in philosophy must have instructor's permission. Alternate years.*

334 CONTEMPORARY  
POLITICAL PHILOSOPHY

A systematic philosophical investigation of the relation between human nature and the proper social and political order. Topics studied include the purpose of government, the nature of legitimate authority, the foundation of human rights, and the limits of human freedom. Emphasis is placed on the logic of social and political thought and on the analysis of basic principles and concepts. *Prerequisite: students without previous philosophy must have instructor's permission.*

335 ETHICAL THEORY

An inquiry concerning the grounds which distinguish morally right from morally wrong actions. Central to the course is critical consideration of the proposals and the rationale of relativists, egoists, utilitarians, and other ethical theorists. Various topics in metaethics are also included. *Prerequisite: students without previous study in philosophy must have instructor's permission.*

438 ANCIENT GREEK PHILOSOPHY

A critical examination of the ancient Greek philosophers, with particular emphasis on Plato and Aristotle. *Prerequisite: two*

*courses in philosophy or consent of instructor. Alternate years.*

439 EARLY MODERN PHILOSOPHY

A critical examination of the Continental Rationalists (Descartes, Spinoza, Leibniz), the British Empiricists (Locke, Berkeley, Hume) and Kant. *Prerequisite: two courses in philosophy or consent of instructor. Alternate years.*

449 DEPARTMENTAL SEMINAR

An investigation carried on by discussions and papers, into one philosophical problem, text, philosopher, or movement. A different topic is selected each semester. Recent topics include artificial intelligence, the ethics of research of human subjects, life after death, personal identity, and human rights. This seminar is designed to provide junior and senior philosophy majors and other qualified students with more than the usual opportunity for concentrated and cooperative inquiry. *Prerequisite: consent of instructor. This seminar may be repeated for credit.*

470-479 INTERNSHIP (See index)

N80-N89 INDEPENDENT STUDY  
(See index)

Recent independent studies in philosophy include Nietzsche, moral education, Rawls' theory of justice, existentialism, euthanasia, Plato's ethics, and philosophical aesthetics.

490-491 INDEPENDENT STUDY FOR  
DEPARTMENTAL HONORS  
(See index)

## PHYSICAL EDUCATION

Associate Professor: Burch  
Assistant Professor: Whitehill  
Instructor: Holmes (Chairperson)

### Athletic Training Internship

Lycoming College established an apprenticeship program in 1979 after recognizing two conditions: the importance of the care and prevention of athletic injuries by trained professionals, and the career's promising growth potential.

To complete the internship students are required to take the five courses listed below as well as Biology 113 & 114 and Nursing 220. Students also are required to undergo practical work under the supervision of Lycoming's certified athletic trainer. Students are officially

accepted into the Internship program after successful completion of the first year of practical work and Athletic Training 110.

Students who finish the Internship program become eligible to participate in the National Athletic Trainers Association (N.A.T.A.) Certification examination to earn the status of an N.A.T.A. certified trainer. This Internship program also allows the passing students to qualify for the State examination to become Class B athletic trainers under Pennsylvania Act 63 P.S.S1310.1.

Athletic training classes do not count toward fulfilling graduation requirements except as the Physical education requirements of two courses.

#### 110 BASIC ATHLETIC TRAINING

Covers the basics in prevention, evaluation, treatment, and rehabilitation of athletic injuries. *Two lectures, one lab per week. Three credit hours. Prerequisite: CPR certification and Basic First Aid certification.*

#### 210 KINESIOLOGY

The study of the principle types of muscular movements. *Three lectures per week. Three credit hours. Prerequisite: Biology 113 & 114.*

#### 220 BIOMECHANICS

The study of the mechanical and physiological aspects of human movement. *Three lectures per week. Three credit hours. Prerequisite: A.T. 210.*

#### 310 ADVANCED ATHLETIC TRAINING

A more in depth course in injury evaluation, rehabilitation, and therapeutic modalities. *Three lectures per week. Three credit hours. Prerequisite: A.T. 110.*

#### 410 EXERCISE PHYSIOLOGY

The study of the effects of exercise on the human body. *Two lectures and one lab per week. Three credit hours. Prerequisite: Instructor approval. Alternate years.*

### Physical Education

#### 101 PHYSICAL EDUCATION

Coeducational physical education classes. Basic instructions in fundamentals, knowledge, and appreciation of sports that include swimming, tennis, volleyball, archery, soccer, golf, badminton, physical fitness, and other activities. Backpacking, cross-country and alpine skiing, jogging,

modern dance, and cycling are offered on a contract basis. Beginning swimming is required for all non-swimmers. Students may select any activity offered. A reasonable degree of proficiency is required in the activities. Emphasis is on the potential use of activities as recreational and leisure-time interests. Two semesters of physical education (two hours per week) are required. All physical education classes are open to men and women.

## POLITICAL SCIENCE

Professor: Giglio, Roskin

(Chairperson)

Part-time Instructor: Wolf

The major is designed to provide a systematic understanding of government and politics at the international, national, state, and local levels. Majors are encouraged to develop their faculties to make independent, objective analyses which can be applied to the broad spectrum of the social sciences.

Although the political science major is not designed as a vocational major, students with such training may go directly into government service, journalism, teaching, or private administrative agencies. A political science major can provide the base for the study of law, or for graduate studies leading to administrative work in federal, state, or local governments, international organizations, or college teaching. Students seeking certification to teach secondary school social studies may major in political science but should consult their advisors and the education department.

A major consists of eight political science courses, including Political Science 116. Prospective majors are encouraged to register for this course during their freshman year. An exemption will be granted only if it strengthens the student's program. In addition to 116, students must take at least one course in each of five areas (A to E). Students are encouraged, also, to select a minor in another department in accordance with their academic and career interests and in consultation with their departmental advisor.

For non-majors, the department offers three minors: a minor in *Political Science* consists of any four courses numbered 200 or above from areas A to E; a minor in *Foreign Affairs* consists of four courses selected from Political Science 220, 225, 326, 327, 438 and 439; and a minor in *Legal Studies* consists of Political Science 331, 335, 436 and one other course numbered 200 or above. Students are encouraged to consult with department members on the selection of a minor.

#### 116 INTRODUCTION TO POLITICS

An introductory course in political science that asks how and why people form political communities, what holds them together, and how political systems may either improve or damage themselves. Includes comparison of the U.S. with other countries and discussion of current political and public-policy issues.

### A. American Politics

#### 110 GOVERNMENT AND POLITICS IN THE UNITED STATES

An introduction to American national government which emphasizes both structural-functional analysis and policy-making processes. In addition to the legislative, executive, and judicial branches of government, attention will be given to political parties and interest groups, elections and voting behavior, and constitutional rights. Recommended to all social science-education majors and to those students who have had inadequate or insufficient preparation in American government.

#### 111 STATE AND LOCAL GOVERNMENT

An examination of the general principles, major problems, and political processes of the states and their subdivisions, together with their role in a federal type of government.

#### 223 AMERICAN PRESIDENCY

A study of the office and powers of the president with analysis of his major roles as chief administrator, legislator, political leader, foreign policy maker, and commander-in-chief. Special attention is given to those presidents who led the nation boldly. *Subject to student demand, but offered at least once during a four-year cycle.*

### B. Legal Studies

#### 331 CIVIL RIGHTS AND LIBERTIES

What are our rights and liberties as Americans? What should they be? A frank discus-

sion of the nature and scope of the constitutional guarantees. First Amendment rights, the rights of criminal suspects and defendants, racial and sexual equality, and equal protection of the laws. Students will read and brief the more important Supreme Court decisions. *Prerequisite: junior or senior standing or consent of instructor.*

### 335 LAW AND SOCIETY

An examination of the nature, sources, functions, and limits of law as an instrument of political and social control. Included for discussion are legal problems pertaining to the family, crime, deviant behavior, poverty, and minority groups. *Prerequisite: junior or senior standing or consent of instructor.*

### 436 MASS MEDIA LAW AND REGULATION

An examination of the legal structure and the system by which mass communication is controlled in this society. The forces which shape, influence, and make policy will be considered. *Cross-listed as Mass Communication 331. Prerequisite: junior or senior standing or consent of instructor.*

## C. Applied Politics

### 333 BUREAUCRACY AND PUBLIC ADMINISTRATION

What is bureaucracy? Why and how do bureaucracies arise? What has been the political impact of growth of bureaucracy in government? These questions, among others, will be considered in this examination of public bureaucracies. This course is highly recommended to students planning to take an internship in city or county government through the political science department. *Subject to student demand, but offered at least once during a four-year cycle.*

### 347 WOMEN AND POLITICS

The historical, philosophical, and practical context and conduct of women in a variety of political roles. This course considers both elective and nonelective activities, and includes analyses of women's issues currently on legislative and court agendas. *Alternate years.*

### 434 POLITICAL NEWSWRITING

A workshop course in the reporting and rewriting of public affairs at the local, national, and international levels. There will be neither texts nor examinations, but short written assignments will be due every class meeting. *Prerequisite: Mass Communication 329 or consent of instructor. Alternate years.*

### 448 PUBLIC OPINION AND POLLING

A course dealing with the general topic and methodology of polling. Content includes

exploration of the processes by which people's political opinions are formed, the manipulation of public opinion through the uses of propaganda, and the American response to politics and political issues.

## D. Comparative Politics

### 220 EUROPEAN POLITICS

A study of the political systems of Europe with emphasis on comparison and patterns of government. The course will review politics in Britain, France, West Germany, the Soviet Union, and other countries and attempt to find underlying similarities and differences.

### 326 POLITICAL CULTURES

An exploration of the "people" aspects of political life in several countries. The way people interact with each other and with government, what they expect from the system, how they acquire their political attitudes and styles, and how these contribute to the type of government. *Alternate years.*

### 438 POLITICS OF DEVELOPING AREAS

The causes and possible cures for socio-political backwardness in Asia, Africa, and Latin America. *Alternate years.*

## E. International Relations

### 225 WORLD POLITICS

Why is there war? An introduction to international relations with emphasis on the varieties of conflicts which may grow into war.

### 327 CRISIS AREAS IN WORLD POLITICS

The study of several current areas of international tension and conflict, including relations among the United States, Soviet Union, and China, plus the Middle East and whatever new danger spots arise over time. *Alternate years.*

### 439 AMERICAN FOREIGN POLICY

The U.S. role in the world in geographic, strategic, historical, and ideological perspectives, plus an examination of the domestic forces shaping U.S. policy. *Alternate years.*

## F. Special Programs

### 470-479 INTERNSHIPS (See index)

Students may receive academic credit for serving as interns in structured learning situations with a wide variety of public and private agencies and organizations. Students have served as interns with the Public Defender's Office, the Lycoming County Court Administrator, and the Williamsport City government.

### N80-N89 INDEPENDENT STUDY (See index)

Current studies relate to elections — local, state, and federal — while past studies have included Soviet and world politics.

### 490-491 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See index)

## PSYCHOLOGY

Professor: Hancock

Associate Professor: Berthold  
(Chairperson)

Assistant Professor: Balleweg,  
Ryan

The major provides training in both theoretical and applied psychology. It is designed to meet the needs of students seeking careers in psychology or other natural or social sciences. It also meets the needs of students seeking a better understanding of human behavior as a means of furthering individual and career goals in other areas. Psychology majors and others are urged to discuss course selections in psychology with members of the department to help insure appropriate course selection.

A major consists of Psychology 110, 336, 431, 432 and four other psychology courses. Statistics also is required.

A minor in *Psychology* consists of Psychology 110 and four other psychology courses (three of which must be numbered 200 or above) which must be approved by the department.

### 110 INTRODUCTORY PSYCHOLOGY

An introduction to the empirical study of human and other animal behavior. Areas considered may include: learning, personality, social, physiological, sensory, cognition, and developmental.

### 112 GROUP PROCESSES AND INTERPERSONAL COMMUNICATION

The introduction to the research and theory from social psychology related to small-group dynamics and interpersonal communication. Topics covered will include communication processes, interpretation of motivation, conceptualization of individual personalities, problem solving and leadership. The first stage of the course will focus on research and theory; the second half will

emphasize the development of skills and techniques where students become members of a self-analytic — practicing the skills and making a case study of the processes involved. *May term only.*

#### 116 ABNORMAL PSYCHOLOGY

An introduction to the patterns of deviant behavior with emphasis on cause, function, and treatment. The various models for the conceptualization of abnormal behavior are critically examined. *Prerequisite: Psychology 110.*

#### 117 DEVELOPMENTAL PSYCHOLOGY

A study of the basic principles of human growth and development throughout the life span. *Prerequisite: Psychology 110.*

#### 118 ADOLESCENT PSYCHOLOGY

The study areas will include theories of adolescence; current issues raised by as well as about the "generation of youth"; research findings bearing on theories and issues of growth beyond childhood, and self-exploration. *Prerequisite: Psychology 110.*

#### 224 SOCIAL PSYCHOLOGY

The scientific exploration of interpersonal communication and behavior. Topics include attitudes and attitude change, attraction and communication, social perception and social influence, prosocial and antisocial behavior and group processes. *Prerequisite: Psychology 110.*

#### 225 INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY

The application of the principles and methods of psychology to selected industrial and organizational situations. *Prerequisite: Psychology 110 or consent of instructor.*

#### 239 BEHAVIOR MODIFICATION

A detailed examination of the applied analysis of behavior. Focus will be on the application of experimental method to the individual clinical case. The course will cover targeting, behavior, base-rating, intervention strategies, and outcome evaluation. Learning-based modification techniques such as contingency management, counter-conditioning, extinction, discrimination training, aversive conditioning, and negative practice will be examined. *Prerequisite: Psychology 110 or consent of instructor.*

#### 333 PHYSIOLOGICAL PSYCHOLOGY

An introduction to the physiological psychologist's method of approach to the understanding of behavior as well as the set of principles that relate the function and organization of the nervous system to the phenomena of behavior. *Prerequisite: Psychology 110 or consent of instructor.*

#### 334 PRINCIPLES OF MEASUREMENT

Psychometric methods and theory, including scale transformation, norms, standardization, validation procedures, and estimation of reliability. *Prerequisites: Psychology 110 and statistics.*

#### 335 HISTORY AND SYSTEMS OF PSYCHOLOGY

The growth of scientific psychology and the theories and systems that have accompanied its development. *Prerequisite: four courses in psychology.*

#### 336 PERSONALITY THEORY

A review of the major theories of personality development and personality functioning. In addition to covering the details of each theory, the implications and applications of each theory will be considered. *Prerequisite: Psychology 110.*

#### 337 COGNITION

An investigation of human mental processes along the two major dimensions directed and undirected thought. Topic areas include recognition, attention, conceptualization, problem-solving, fantasy, language, dreaming, and creativity. *Prerequisite: Psychology 110.*

#### 338 EDUCATIONAL PSYCHOLOGY

An introduction to the empirical study of the teaching-learning process. Areas considered may include educational objectives, pupil and teacher characteristics, concept learning, problem solving and creativity, attitudes and values, motivation, retention and transfer, evaluation and measurement. *Prerequisite: Psychology 110 or consent of instructor.*

#### 341 PSYCHOLOGY OF WOMEN

A review of contemporary theory and research on the psychology of gender differences. The major theories and basic research on gender differences will be covered. Special topics include sex differences in achievement, power, and communication; sex-role stereotypes; beliefs about masculinity and femininity; and gender influences on mental health. *Prerequisite: Psychology 110.*

#### 431 LEARNING EXPERIMENTAL PSYCHOLOGY

Learning processes. The examination of the basic methods and principles of animal and human learning. *Prerequisites: Psychology 110 and statistics.*

#### 432 SENSORY EXPERIMENTAL PSYCHOLOGY

The examination of psychophysical methodology and basic neurophysiological methods as they are applied to the under-

standing of sensor processes. *Prerequisites: Psychology 110 and statistics.*

#### 448-449 PRACTICUM IN PSYCHOLOGY

An off-campus experience in a community setting offering psychological services, supplemented with classroom instruction and discussion. Psychology 448 covers the basic counseling skills, while Psychology 449 covers the major theoretical approaches to counseling. *Prerequisite: consent of instructor.*

#### 470-479 INTERNSHIP (See index)

Internships give students an opportunity to relate on-campus academic experiences to society in general and to their post-baccalaureate objectives in particular. Students have, for example, worked in prisons, public and private school, county government, and for the American Red Cross.

#### N80-N89 INDEPENDENT STUDY (See index)

Independent study is an opportunity for students to pursue special interests in areas for which courses are not offered. In addition, students have an opportunity to study a topic in more depth than is possible in the regular classroom situation. Studies in the past have included child abuse, counseling of hospital patients, and research in the psychology of natural disasters.

#### 490-491 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See index)

Honors in psychology requires original contributions to the literature of psychology through independent study. The most recent honors project was a study of the relationship between socio-economic status and visual versus auditory learning.

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## RELIGION

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Professor: Guerra (Chairperson)

Associate Professor: Hughes

Assistant Professor: Van Voorst

A major consists of 10 courses, including Religion 113, 114, and 120. At least seven courses must be taken in the department. The following courses may be counted toward fulfilling the major requirements: Greek 221 and 222, Hebrew 221 and 222, History 340 and 416, Philosophy 332, and Sociology 333.

A minor in *Religion* consists of one course from Religion 110, 113, 114 and four religion courses numbered 200 or above.



An interdisciplinary minor in *Biblical Languages* requires the completion of Greek 221, 222 and Hebrew 221 and 222.

#### 110 INTRODUCTION TO RELIGION

Designed for the beginning student, this course examines what it means to be religious. Some of the issues are the definition of religion, the meaning of symbolism, concepts of God, ecstatic phenomena. Specific attention will be devoted to the current problem of cults and religious liberty.

#### 113 OLD TESTAMENT FAITH AND HISTORY

A critical examination of the literature within its historical setting and in the light of archaeological findings to show the faith and religious life of the Hebrew-Jewish community in the Biblical period, and an introduction to the history of interpretation with an emphasis on contemporary Old Testament criticism and theology.

#### 114 NEW TESTAMENT FAITH AND HISTORY

A critical examination of the literature within its historical setting to show the faith and religious life of the Christian community in the Biblical period, and an introduction to the history of interpretation with an emphasis on contemporary New Testament criticism and theology.

#### 117 INTRODUCTION TO SUPERNATURAL PHENOMENA

An examination of claims for supernatural or paranormal phenomena with an emphasis on critical methodology and the evaluation of evidence. The course is designed to teach students the difference between the scientific and religious methodologies, the proper role of each, and the hazards of mixing the two. Subjects covered include ESP, Spiritualism, the Bermuda Triangle, witchcraft, faith healing, Noah's Ark, ghosts, monsters, and others. *Offered May and summer terms only.*

#### 120 DEATH AND DYING

A study of death from personal, social, and universal standpoints with emphasis upon what the dying may teach the living. Principal issues are the stages of dying, bereavement, suicide, funeral conduct, and the religious doctrines of death and immortality. Course includes, as optional, practical projects with terminal patients under professional supervision. *Only one course from the combination 120-121 may be used for distribution.*

#### 121 AFTER DEATH AND DYING

An examination of the question of life after death in terms of contemporary clinical stu-

dies, the New Testament resurrection narratives, the Asian doctrine of reincarnation, and the classical theological beliefs of providence and predestination. *Religion 120 is recommended but not required. Only one course from the combination 120-121 may be used for distribution.*

#### 222 PROTESTANTISM IN THE MODERN WORLD

An examination of Protestant thought and life from Luther to the present against the backdrop of a culture rapidly changing from the 17th century scientific revolution to Marxism, Darwinism, and depth psychology. Special attention will be paid to the constant interaction between Protestantism and the world in which it finds itself.

#### 223 CHRISTIAN ORIGINS

A study of the historical, cultural, and religious background of the formation of Christianity and the antecedents of Christian belief and practice in post-exilic Judaism and in Hellenism.

#### 224 JUDAISM AND ISLAM

An examination of the rise, growth, and expansion of Judaism and Islam with special attention given to the theological contents of the literatures of these religions as far as they are normative in matters of faith, practice, and organization. Also, a review of their contributions to the spiritual heritage of mankind.

#### 225 ORIENTAL RELIGION

A phenomenological study of the basic content of Hinduism, Buddhism, and Chinese Taoism with special attention to social and political relations, mythical and aesthetic forms, and the East-West dialogue.

#### 226 BIBLICAL ARCHAEOLOGY

A study of the role of archaeology in reconstructing the world in which the Biblical literature originated with special attention given to archaeological results that throw light on the clarification of the Biblical text. Also, an introduction to basic archaeological method and a study in depth of several representative excavations along with the artifacts and material culture recovered from different historical periods.

#### 228 HISTORY AND CULTURE OF THE ANCIENT NEAR EAST

A study of the history and culture of Mesopotamia, Anatolia, Syria-Palestine, and Egypt from the rise of the Sumerian culture to Alexander the Great. Careful attention will be given to the religious views prevalent in the ancient Near East as far as these views interacted with the culture and faith of Biblical man.

#### 230 PSYCHOLOGY OF RELIGION

A study into the broad insights of psychology in relation to the phenomena of religion and religious behavior. The course concentrates on religious experience or manifestations rather than concepts. Tentative solutions will be sought to questions such as: What does it feel like to be religious or to have a religious experience? What is the religious function in human development? How does one think psychologically about theological problems?

#### 331 CHRISTIAN SOCIAL ETHICS

A study of Christian ethics as a normative perspective for contemporary moral problems with emphasis upon the interaction of law and religion, decision making in the field of biomedical practice, and the reconstruction of society in a planetary civilization.

#### 332 CONTEMPORARY PROBLEMS IN CHRISTIAN SOCIAL ETHICS

An examination of the approach of religion and other disciplines to an issue of current concern; current topics include the theological significance of law, the ethics of love, and the Holocaust. *The course may be repeated for credit if the topic is different from one previously studied.*

#### 337 BIBLICAL TOPICS

An in-depth study of Biblical topics related to the Old and New Testaments. Topics include prophecy, wisdom literature, the Dead Sea Scrolls, the teachings of Jesus, Pauline theology, Judaism and Christian origins, redaction criticism — the way the Synoptic Gospels and John give final form to their message. *Course will vary from year to year and may be taken for credit a second time if the topic is different from one previously studied.*

#### 341 CONTEMPORARY RELIGIOUS ISSUES

A study of the theological significance of some contemporary intellectual developments in Western culture. The content of this course will vary from year to year. Subjects studied in recent years include the theological significance of Freud, Marx, and Nietzsche; Christianity and existentialism; theology and depth psychology; the religious dimension of contemporary literature.

#### 342 THE NATURE AND MISSION OF THE CHURCH

A study of the nature of the Church as "The People of God" with reference to the Biblical, Protestant, Orthodox, and Roman Catholic traditions.

#### 470-479 INTERNSHIP (See index)

Interns in religion usually work in local churches under the supervision of the pastor and a member of the faculty.

#### N80-N89 INDEPENDENT STUDY

(See index)

Current study areas are in the Biblical languages, New Testament theology, comparative religions, and the ethics of technology.

#### 490-491 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS

(See index)

A recent project was on the theology of hope with reference to the thought of Ernst Bloch and Alfred North Whitehead.

### SOCIOLOGY-ANTHROPOLOGY

Professor: Wilk

Associate Professor: Jo  
(Chairperson)

Assistant Professors: Lawrence,  
Strauser

The Sociology/Anthropology Department offers two tracks in the major. Both tracks introduce the students to the fundamental concepts of the discipline, and both tracks prepare the student for graduate school.

Track I emphasizes the theoretical aspects of sociology and anthropology. Track II emphasizes the application of sociology and anthropology to human services.

*Track I — Sociology-Anthropology* requires the core course sequence 110, 114, 229, 444, and 447 and three other courses within the department with the exception of 115, 222, 223, 225, 440, and 443. Religion 226 may also be counted toward the major.

*Track II — Human Services in a Socio-Cultural Perspective* requires: Sociology-Anthropology 110, 222, 229, 443, 444, and 447. In addition, students must select two courses from among the following: Sociology-Anthropology 220, 221, 227, 228, 300, 334, and 335. Students are also required to choose two units from the following courses: Psychology 110, Psychology 224, Economics 224, and Political Science 333. Recommended courses: Accounting 110, Accounting 226, Spanish 111, Spanish 112, History 126, and Philosophy 334.

Majors in both tracks are encouraged to participate in the internship program.

A minor in *Sociology and Anthropology* consists of Sociology-Anthropology 110 and four other sociology-anthropology courses (three of which must be numbered 220 or above) which must be approved by the department. Sociology-Anthropology courses 115, 223, 225, 339, and 440 cannot be counted toward this minor.

#### 110 INTRODUCTION TO SOCIOLOGY

An introduction to the problems, concepts, and methods in sociology today, including analysis of stratification, organization of groups and institutions, social movements, and deviants in social structure.

#### 114 INTRODUCTION TO ANTHROPOLOGY

An introduction to the subfields of anthropology; its subject matter, methodology, and goals. Examination of biological and cultural evolution, the fossil evidence for human evolution, and questions raised in relation to human evolution. Other topics include race, human nature, primate behavior, and prehistoric cultural development.

#### 115 INTRODUCTION TO AMERICAN CRIMINAL JUSTICE SYSTEM

An introduction to the role of law enforcement, courts, and corrections in the administration of justice; the historical development of police, courts, and corrections; jurisdiction and procedures of courts; an introduction to the studies, literature, and research in criminal justice; careers in criminal justice.

#### 220 MARRIAGE AND THE FAMILY

The history, structure, and functions of modern American family life, emphasizing dating, courtship, factors in marital adjustment, and the changing status of family members. *Prerequisite: Sociology-Anthropology 110 or consent of instructor.*

#### 221 JUVENILE DELINQUENCY

A multidisciplinary approach to the study of the constellation of factors that relate to juvenile delinquency causation, handling the juvenile delinquent in the criminal justice system, treatment strategies, prevention, and community responsibility. *Prerequisite: Sociology-Anthropology 110 or consent of instructor.*

#### 222 INTRODUCTION TO HUMAN SERVICES

The course is designed for students interested in learning about, or entering, the human services profession. It will review the history, the range, and the goals of human ser-

vices together with a survey of various strategies and approaches to human problems. It will include practical discussions of social behavioral differences as they relate to stress and conflict in people's lives. *Prerequisite: Sociology-Anthropology 110 and/or Psychology 110 or consent of instructor.*

#### 223 INTRODUCTION TO LAW ENFORCEMENT

Principles, theories, and doctrines of the law of crimes, elements in crime, analysis of criminal investigation, important case law. *Prerequisite: Sociology-Anthropology 115 or consent of instructor.*

#### 224 RURAL AND URBAN COMMUNITIES

The concept of community is treated as it operates and affects individual and group behavior in rural, suburban, and urban settings. Emphasis is placed upon characteristic institutions and problems of modern city life. *Prerequisite: Sociology-Anthropology 110 or consent of instructor.*

#### 225 INTRODUCTION TO CRIMINAL INVESTIGATION

This course is designed for advanced criminal justice majors. Emphasis is placed on an in-depth study of detection and investigation of major crimes. Particular attention is placed on the use of criminalistics, legal parameters of evidence and interrogation, and prosecutory procedures. *Prerequisite: Sociology-Anthropology 223 or consent of instructor. Will not be counted toward the sociology/anthropology major.*

#### 226 SOCIAL MOVEMENTS

An analysis of the dynamics, structure, and reactions to social movements with focus on contemporary social movements. *Prerequisite: Sociology-Anthropology 110 or consent of instructor.*

#### 227 SOCIAL PROBLEMS

The course examines the causes, characteristics, and consequences of social problems in America from diverse socio-cultural perspectives. Topics discussed typically include crime, urban crises, family disorganization, poverty, race problems, drug abuse, and other related issues. *Prerequisite: Sociology-Anthropology 110 or consent of instructor.*

#### 228 AGING AND SOCIETY

Analysis of cross-cultural characteristics of the aged as individuals and as members of groups. Emphasis is placed upon variables: health, housing, socio-economic status, personal adjustment, retirement, and social participation. Sociological, social psychological, and anthropological frames of reference utilized in analysis and description of aging and its relationship to society, culture, and personality.

## 229 CULTURAL ANTHROPOLOGY

An examination of cultural and social anthropology designed to familiarize the student with the analytical approaches to the diverse cultures of the world. The relevancy of cultural anthropology for an understanding of the human condition will be stressed. Topics to be covered include the nature of primitive societies in contrast to civilizations, the concept of culture and cultural relativism, the individual and culture, the social patterning of behavior and social control, an anthropological perspective on the culture of the United States.

## 300 CRIMINOLOGY

Analysis of the sociology of law; conditions under which criminal laws develop; etiology of crime; epidemiology of crime, including explanation of statistical distribution of criminal behavior in terms of time, space, and social location. *Prerequisite: Sociology-Anthropology 110 or consent of instructor.*

## 331 SOCIOLOGY OF WOMEN

A sociological examination of the role of women in American society through an analysis of the social institutions which affect their development. Role-analysis theory will be applied to the past, present, and future experience of women as it relates to the role options of society as a whole. Students will do an original research project on the role of women. *Prerequisite: Sociology-Anthropology 110. Alternate years.*

## 332 INSTITUTIONS

Introduces the student to the sociological concept of social institution, the types of social institutions to be found in all societies, and the interrelationships between the social institutions within a society. The course is divided into two basic parts: 1. That aspect which deals with the systematic organization of society in general, and 2. The concentration on a particular social institution: economic, political, educational, or social welfare. *Prerequisite: Sociology-Anthropology 110 or consent of instructor.*

## 333 SOCIOLOGY OF RELIGION

An examination of the major theories of the relationship of religion to society and a survey of sociological studies of religious behavior. *Prerequisite: Sociology-Anthropology 110 or consent of instructor.*

## 334 RACIAL AND CULTURAL MINORITIES

Study of racial, cultural, and national groups within the framework of American cultural values. An analysis will include historical, cultural, and social factors underlying ethnic and racial conflict. Field trips and individual reports are part of the requirements for the

course. *Prerequisite: Sociology-Anthropology 110 or consent of instructor.*

## 335 CULTURE AND PERSONALITY

Introduction to psychological anthropology, its theories and methodologies. Emphasis will be placed on the relationship between individual and culture, national character, cognition and culture, culture and mental disorders, and cross-cultural considerations of the concept of self. *Prerequisite: Sociology-Anthropology 229 or consent of instructor. Offered at least once every three years.*

## 336 THE ANTHROPOLOGY OF PRIMITIVE RELIGIONS

The course will familiarize the student with the wealth of anthropological data on the religions and world views developed by primitive peoples. The functions of primitive religion in regard to the individual, society, and various cultural institutions will be examined. Subjects to be surveyed include myth, witchcraft, vision quests, spirit possession, the cultural use of dreams, and revitalization movements. Particular emphasis will be given to shamanism, transcultural religious experience, and the creation of cultural realities through religions. Both a social scientific and existentialist perspective will be employed. *Prerequisite: Sociology-Anthropology 229 or consent of instructor. Alternate years.*

## 337 THE ANTHROPOLOGY OF AMERICAN INDIANS

An ethnographic survey of native North American Indian and Eskimo cultures, such as the Iroquois, Plains Indians, Pueblos, Kwakiutl, and Netsilik. Changes in native lifeways due to European contacts and United States expansion will be considered. Recent cultural developments among American Indians will be placed in an anthropological perspective. *Offered at least once every three years.*

## 338 LEGAL AND POLITICAL ANTHROPOLOGY

The course is designed to familiarize the student with the techniques of conflict resolution and the utilization of public power in primitive society as well as the various theories of primitive law and government. The rise of the state and an anthropological perspective on modern law and government will be included. The concepts of self-regulation and social control, legitimacy, coercion, and exploitation will be the organizing focus. *Prerequisite: Sociology-Anthropology 229 or consent of instructor.*

## 339 THE AMERICAN PRISON SYSTEM

Nature and history of punishment, evolution of the prison and prison methods with emphasis on prison community, prison

architecture, institutional programs, inmate rights, and sentences. Review of punishment versus treatment, detention facilities, jails, reformatories, prison organization and administration, custody, and discipline. *Prerequisite: Sociology-Anthropology 115.*

## 440 PROBATION AND PAROLE

A course designed for the advanced criminal justice major. While the course concerns the study of probation and parole as parts of the criminal justice system and their impact on the system as a whole, the primary emphasis is the impact on the offender. Particular attention is given to diagnostic report writing on offenders, pre-sentence investigation, offender classification, and parole planning. *Prerequisite: Sociology-Anthropology 115 and 339. Alternate years.*

## 441 SOCIAL STRATIFICATION

An analysis of stratification systems with specific reference to American society. The course will include an analysis of poverty, wealth, and power in the United States. Particular attention will be given to factors which generate and maintain inequality, along with the impact of inequality on the lives of Americans. *Prerequisite: Sociology-Anthropology 110 or consent of instructor.*

## 443 HUMAN SERVICES IN HELPING INSTITUTIONS

The course examines the organizational and conceptual context within which human services are delivered in contemporary society. Subjects to be covered include ethnographic study of nursing homes, prisons, therapeutic communities, mental hospitals, and other human service institutions. The methodology of fieldwork will be explored so as to sensitize the student to the socio-cultural dimensions of helping environments and relationships. *Prerequisite: Sociology-Anthropology 110 or Sociology-Anthropology 229 or consent of instructor. Alternate years.*

## 444 SOCIAL THEORY

The history of the development of sociological thought from its earliest philosophical beginnings is treated through discussions and reports. Emphasis is placed upon sociological thought since the time of Comte. *Prerequisite: Sociology-Anthropology 110 or consent of instructor.*

## 445 ANTHROPOLOGICAL THEORY

The history of the development of anthropological thought from the 18th century to the present. Emphasis is placed upon anthropological thought since 1850. Topics include evolutionism, historical-particularism, cultural idealism, cultural materialism, functionalism, structuralism, and ethno-science. *Prerequisite: Sociology-Anthropology 229*

or consent of instructor. Offered at least once every three years.

**446 PEOPLE AND CULTURES OF THE AMERICAN SOUTHWEST**

Field experience in the analysis of tricultural communities of Northern New Mexico, Southern Colorado, and Northeastern Arizona, including the eastern Pueblos of New Mexico; Zuni, Navajo, and Apache reservations; isolated Spanish-American mountain villages of Northern New Mexico; religious ashrams and communes; and cities of the Southwest and Juarez, Mexico. Emphasis upon Taos, Rio Arriba, Sante Fe, and Los Alamos counties of New Mexico. *Prerequisite: Sociology 110 or consent of instructor. May or summer only.*

**447 RESEARCH METHODS IN SOCIOLOGY-ANTHROPOLOGY**

Study of the research process in sociology-anthropology. Attention is given to the process of designing and administering research and the application of research. Different methodological skills are considered, including field work, questionnaire construction, and other methods of data gathering and the analysis of data. *Prerequisite: Sociology-Anthropology 110 and Mathematical 103 or consent of instructor.*

**448-449 PRACTICUM IN SOCIOLOGY**

Introduces the student to a practical work experience involving community agencies in order to effect a synthesis of the student's academic course work and its practical applications in a community agency. Specifics of the course to be worked out in conjunction with department, student, and agency. *Prerequisite: Sociology-Anthropology 110 or consent of instructor.*

**470-479 INTERNSHIP (See index)**

Interns in sociology-anthropology typically work off campus with social service agencies under the supervision of administrators. However, other internship experiences, such as with the Lycoming County Historical Museum, are available. Interns in criminal justice work off campus in criminal justice agencies, such as penal institutions and probation and parole departments, under the supervision of administrative personnel.

**N80-N89 INDEPENDENT STUDY (See index)**

An opportunity to pursue specific interests and topics not usually covered in regular courses. Through a program of readings and tutorials, the student will have the opportunity to pursue these interests and topics in greater depth than is usually possible in a regular course.

**490-491 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See index)**

**THEATRE**

Professor: Falk (Chairperson)  
Associate Professor: Allen  
Part-Time Instructor: Clark

The major consists of eight courses: Theatre 100 and seven others; a concentration in acting, directing, or design is possible. In addition to the course requirements, majors are expected to participate actively in Arena Theatre productions. Majors are urged to include courses in art, music, psychology, and English, or other areas of special interest.

Three minors are available in the Theatre department. A minor in *Theatre History and Literature* consists of Theatre 100, 332, 333, 335, and 400. The following courses are required to complete a minor in *Performance*: Theatre 100, 140, 226, 334, 336, and either 332 or 333. To obtain a minor in *Technical Theatre*, a student must complete Theatre 100, 148, 228, 338, and 420 or 430.

The fine arts distribution requirement may be satisfied by selecting any two of the following recommended courses: Theatre 100, 110, 140, 148, 332, 333 or other courses with the consent of the instructor.

**100 INTRODUCTION TO THEATRE**

Designed as a comprehensive introduction to the aesthetics of theatre. From the spectator's point of view, the nature of theatre will be explored, including dramatic literature and the integral functioning of acting, directing, and all production aspects.

**110 INTRODUCTION TO FILM**

A basic course in understanding the film medium. The class will investigate film technique through lectures and by viewing regular weekly films chosen from classic, contemporary, and experimental short films.

**140 INTRODUCTION TO ACTING**

An introductory study of the actor's preparation with emphasis on developing the actor's

creative imagination through improvisations and scene study.

**148 INTRODUCTION TO PLAY PRODUCTION**

Stagecraft and the various other aspects of play production are introduced. Through material presented in the course and laboratory work on the Arena Theatre stage, the student will acquire experience to produce theatrical scenery.

**226 INTRODUCTION TO DIRECTING**

An introductory study of the function of the director in preparation, rehearsal, and performance. Emphasis is placed on developing the student's ability to analyze scripts, and on the development of the student's imagination. *Prerequisite: Theatre 140.*

**228 INTRODUCTION TO SCENE DESIGN AND STAGECRAFT**

An introduction to the theatre with an emphasis on stagecraft. Productions each semester serve as the laboratory to provide the practical experience necessary to understand the material presented in the classroom. *Prerequisite: Theatre 148 or consent of instructor.*

**231 ADVANCED TECHNIQUES OF PLAY PRODUCTION**

A detailed consideration of the interrelated problems and techniques of play analysis, production styles, and design. *Offered summer only.*

**232 FUNDAMENTALS OF MAKEUP**

Essentials of stage makeup: straight, character, special types. Effects of light on makeup are included. *Prerequisite: Theatre 148. One-half unit. Alternate years.*

**233 ADVANCED MAKEUP**

Advanced techniques in makeup design. Three dimensional and prosthetic makeups are included, with emphasis on nonrealistic and nonhuman forms. *Prerequisite: Theatre 232. One-half unit. Alternate years.*

**332 HISTORY OF THEATRE I**

A detailed study of the development of theatre from the Greeks to the Restoration. *Alternate years.*

**333 HISTORY OF THEATRE II**

The history of the theatre from 1660. *Alternate years.*

**334 INTERMEDIATE STUDIO: ACTING**

Instruction and practice in character analysis and projection with emphasis on vocal and body techniques. *Prerequisite: Theatre 140.*

### 335 THEORIES OF THE MODERN THEATRE

An advanced course exploring the philosophical roots of the modern theatre from the birth of realism to the present and the influences on modern theatre practice. Selected readings from Nietzsche, Marx, Jung, Freud, Whitehead, Kierkegaard, Sartre, Camus, Antoine, Copeau, Stanislavski, Shaw, Meyerhold, Artaud, Brecht, Brook, Grotowski. *Alternate years.*

336 INTERMEDIATE STUDIO: DIRECTING  
Emphasis is placed on the student's ability to function in preparation and rehearsal. Practical experience involves the directing of two one-act plays from the contemporary theatre. *Prerequisite: Theatre 226.*

### 337 PLAYWRITING AND DRAMATIC CRITICISM

An investigation of the techniques of playwriting with an emphasis on creative writing, culminating in a written one-act play, plus an historical survey of dramatic criticism from Aristotle to the present with emphasis upon developing the student's ability to write reviews and criticism of theatrical productions and films. *Alternate years.*

### 338 INTERMEDIATE STUDIO: LIGHTING DESIGN

The theory of stage and lighting design with emphasis on their practical application to the theatre. *Prerequisite: Theatre 148 or consent of instructor.*

### 400 MASTERS OF WORLD DRAMA

An intensive and detailed analysis of the plays and related works, including criticism of great authors, that have shaped world theatre. Authors to be selected on the basis of interest of students and faculty. At times, more than one author will be treated in a term. Ibsen, Brecht, Moliere, Williams, Albee. *Alternate years. May be accepted toward English major with consent of English Department.*

### 420 ADVANCED STUDIO: COSTUME DESIGN

The theory of costuming for the stage, elements of design, planning, production, and construction of costumes for the theatre. Students will participate in the design of a production. *Prerequisite: Theatre 148 or consent of instructor.*

### 430 ADVANCED STUDIO: PROPERTIES DESIGN

The theory of properties design for the stage, including the production of specific properties for staging use. Elements of design, fabrication, and the construction of properties employing a variety of materials and

the application of new theatrical technology. *Prerequisite: Theatre 148 or consent of instructor.*

### 440 ADVANCED STUDIO: ACTING

Preparation of monologues and two-character scenes, contemporary and classical. The student will appear in major campus productions. *Prerequisite: Theatre 334.*

### 446 ADVANCED STUDIO: DIRECTING

Emphasis will be placed on the student's ability to produce a major three-act play from the script to the stage for public performance. *Prerequisite: Theatre 336.*

### 448 ADVANCED STUDIO: DESIGN

Independent work in conceptual and practical design. The student will design one full production as his major project. *Prerequisites: Theatre 228 or 338 and consent of instructor.*

### 470-479 INTERNSHIP (See index)

Interns in theatre work off campus in theatres such as the Guthrie Theatre, Minneapolis, and at the New Jersey Shakespeare Festival.

### N80-N89 INDEPENDENT STUDY (See index)

Some recent independent studies have been the roles of women as characters in drama, scene design, and lighting design for an Arena production.

### 490-491 INDEPENDENT STUDY FOR DEPARTMENTAL HONORS (See index)

A typical study could be the writing and production of an original play.

### THEATRE PRACTICUM

Students may receive academic credit for supervised participation in the various aspects of technical production, rehearsal, and performance of the Theatre Department's major presentations in the Arena Theatre. Credit for Theatre Practicum is earned on a fractional basis. Students may register for one-half semester hour course credit for active participation in a major production in the designated areas of technology and performance, limited to one semester hour credit per semester and eight semester hours over four years. Theatre Practicum credit may not be used to satisfy distribution requirements in Fine Arts. Students may not register for Theatre Practicum while taking Theatre 100 (Introduction to Theatre) or Theatre 148 (Play Production) without permission of the instructor. When scheduling, students should register for Theatre Practicum in addition to the normal four academic courses. Because students may not be cast or assigned duties in time to meet the drop/add

deadline, late registration for Theatre 160 and 161 (Technical Theatre), (Rehearsal and Performance) will be permitted without penalty.

### 160 TECHNICAL THEATRE PRACTICUM

Participation in a major production of the Arena Theatre in one or more of the following technical areas: scene construction, scene painting, lighting, sound, properties, costume, make-up. A minimum of 50 hours is required. May be repeated for credit. One-half credit hour. *Prerequisite: Consent of instructor.*

### 161 REHEARSAL AND PERFORMANCE PRACTICUM

Participation in a major production of the Arena Theatre in one or more of the following rehearsal and performance areas: acting in a major or minor role, stage manager, director, assistant director, choreographer. A minimum of 50 hours is required. May be repeated for credit. One-half hour credit. *Prerequisite: Consent of instructor.*

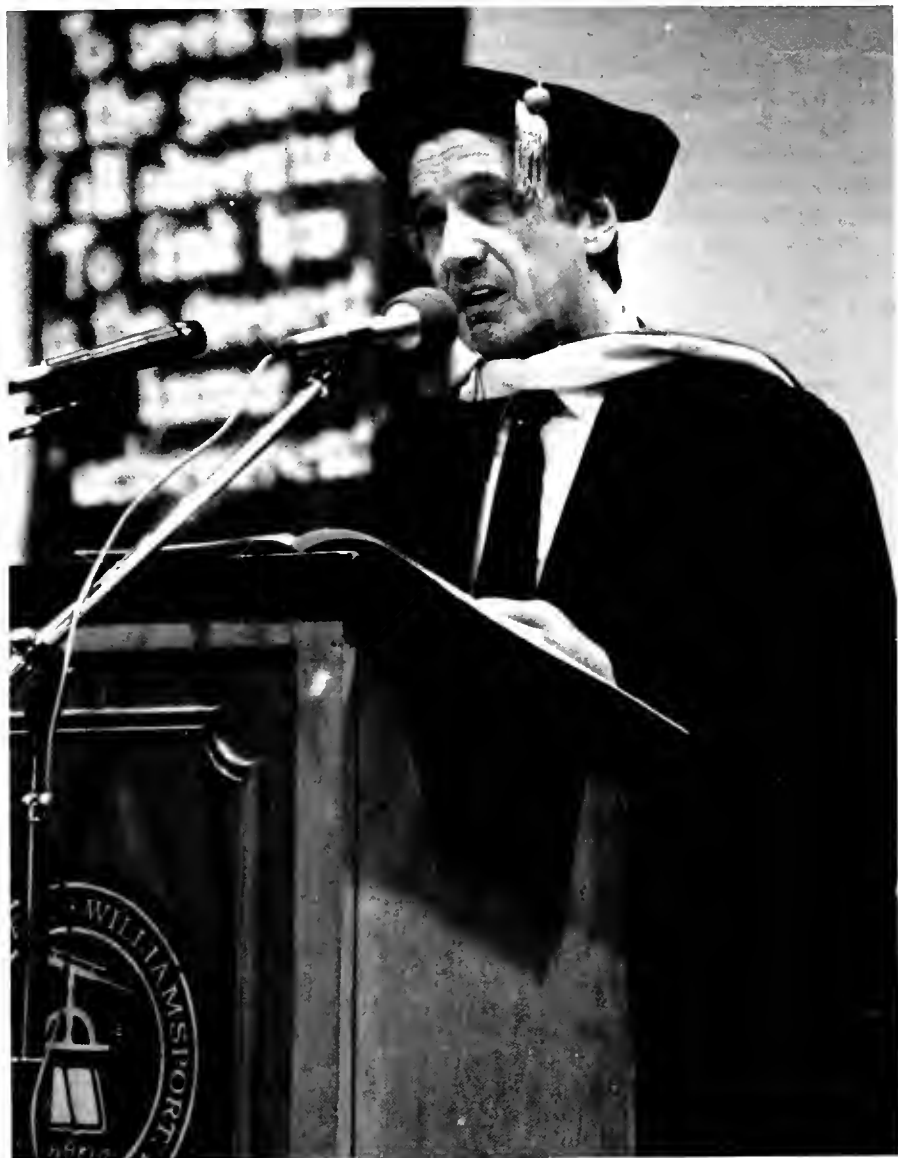
## WOMEN'S STUDIES

Professor: Jensen  
(Coordinator)

Although a major is not available in Women's Studies, a minor is possible. Courses required for the minor follow:

History 310 — Women in History  
English 334 — Women in Literature  
Psychology 341 — Psychology of Women  
Art 339 — Women in Art

With the approval of the coordinator, one of the four courses may be satisfied with Political Science 347: Women in Politics, or with an appropriate special course, or with an independent studies project. To receive credit for a minor in Women's Studies, a student must maintain at least a 2.0 average in courses taken for that minor.



*1987 Nobel Peace Prize recipient Elie Wiesel delivered the 1987 commencement address at Lycoming. Dr. Wiesel received an honorary doctor of humane letters degree.*

# Student Services

## ADMINISTRATION

The program of student services at Lycoming is administered by the Office of Student Services. It is designed to respond to a diversity of student needs. Professional staff members are assigned the specific responsibilities of:

- career counseling and placement;
- residence life;
- student activities;
- religious life;
- health services;
- study skills;
- student orientation;
- judiciary-student conduct

All members of the staff are available to counsel and advise individual students.

## PERSONAL COUNSELING

Members of the staff of the Office of Student Services are qualified and available to provide non-therapeutic assistance to students with adjustment problems. A full time counseling psychologist provides short term therapy for students needing assistance in the areas of emotional/mental health and substance abuse. Continuing therapy is available through referrals to public agencies and private clinicians in the Williamsport community. Financial arrangements for these referral services are made directly by the student with the agency and/or individual clinician involved.

## CAREER DEVELOPMENT SERVICES

The Career Development Center provides services which are designed to help students identify their abilities and interests, set realistic career goals, and plan academic programs to meet these goals. Counseling for Lycoming students begins in the freshman year.

In addition to individual guidance, the center maintains a library on specific

careers, employment outlooks, and career trends. Services offered by the center include:

- individual counseling;
- DISCOVER a computer assisted career guidance system provides information to students about themselves and the world of work;
- SHARE (Students Having a Real Experience), a program in which students observe and work with a professional in the field;
- placement services to aid seniors in implementing their career plans;
- assistance to students in securing internships, summer employment, and part-time employment;
- speaker's program which brings professionals from a variety of careers to campus seminars;
- video-cassette programs relating to job skills and career information;
- microfiche copies of graduate- and professional-school catalogs for the United States and abroad.

## RESIDENCE AND RESIDENCE HALLS

Single students under 23 years of age who do not live at the home of their parents are required to live in residence halls and eat in the dining room. All new resident students are forwarded a room-agreement form to sign after confirmation of their admission to Lycoming. This agreement is renewed each spring.

Residence students assume responsibility for their rooms and furnishings. The College reserves the right to enter and inspect any room for reasons of damage, health, or safety, and to search any room when there is reason to believe a violation of College rules or the law is occurring or has occurred. Charges are assessed for damage to rooms, doors, furniture and common areas. Wherever possible, damage to dormitory property will be charged to the person or persons directly responsible. Damage and breakage occurring in a room will be the responsibility of students occupying the room. Hall and bathroom damage will be

the responsibility of the section where damage occurs.

Residence halls are not available for occupancy during the vacation periods. Quiet hours for study purposes, which are established by residence hall councils or the Office of Student Services, are published in the student handbook and posted on bulletin boards.

Room visitation by members of the opposite sex is permitted in the halls under conditions established by the College in cooperation with the various residence hall councils, which share responsibility for developing and monitoring regulations, and which are organized each fall semester before visitation schedules are established.

## STUDENT ACTIVITIES

Student Activities offers assistance and advice for all campus programs and student organizations. Through the efforts of the Campus Activities Board (C.A.B.) programming is provided for all facets of the student population. The Wertz Advisory Board oversees the functional aspects of the Wertz Student Center and works to create an atmosphere which best serves the social and recreational needs of the students. Student Activities is also responsible for Leadership Training and the Student Orientation Staff; in addition, it provides support and direction for student government, the Interfraternity and Panhellenic Councils and the retention program.

## RELIGIOUS LIFE

The United Campus Ministry, staffed by a Protestant Minister and a Roman Catholic Priest, provides a wide range of activities in support of the religious lives of students. Ecumenical and inclusive in nature, campus ministry at Lycoming provides worship services, service projects, social occasions, retreats, study opportunities and personal counseling. The chaplains live on campus and are available to students for a variety of situations in which they might need support, counsel or direction.



## HEALTH SERVICES

Normal medical treatment by the health service staff at the College is provided without cost to the student. During the fall and spring semesters, the College maintains an outpatient service in Rich Hall. It is staffed with a registered nurse five days a week from 8:00 a.m. to 4:30 p.m. The College physician is available from 11 a.m. to 12 noon, Monday through Friday. At other times, emergency care is available at the emergency rooms of Williamsport and Divine Providence Hospitals, located a short distance from the campus.

Medical service charges paid by the student are: emergency room and emergency room physician's charges, special medications, X-rays, surgery, care for major accidents, immunizations, examinations for glasses, physician's visits other than in the health service, referrals for treatment by specialists, special nursing services and special services.

Entering students must provide basic health information to the College between the time of admission and the beginning of classes of the term to which they are admitted. Information provided by the student and his/her physician is confidential and is available only to health service staff and the dean of student services.

All students are required to carry accident-sickness medical insurance. Pre-paid medical insurance is a requirement for participation in intercollegiate athletics. Lycoming College does offer a student plan that is voluntary and at the students' expense.

## STUDENT ORIENTATION

New students at Lycoming are required to attend one of three summer orientation sessions with at least one parent before they enroll in the fall. The purpose of the program is to acquaint new students and their parents with the College more fully so that new students begin their Lycoming experience under the most favorable circumstances. In addition, all new students are required

to attend a two day orientation program which is held immediately prior to the beginning of the fall semester. Information on orientation is mailed to new students after they confirm their admission.

## STANDARDS OF CONDUCT

Lycoming students are expected to accept responsibilities required of adults. The rights of every member of the College community are protected by established regulations. Although the acceptance of the College's standards of behavior is an individual responsibility, it also calls for group responsibility. Students should influence their peers to con-

duct themselves responsibly for the collective good.

Students who are unable to demonstrate that they have accepted these responsibilities or who fail to abide by established policies may be dismissed at any time or denied readmission for a subsequent term or semester. Further, after the conclusion of any term or semester, the College may deny a student the privilege of attending any subsequent term or semester when the administration deems this to be in the best interest of the College.

Students are given a handbook which contains the College's official policies, rules and regulations. These policies, rules and regulations are part of the contractual agreement students enter into when they register at Lycoming.



# Admission to Lycoming

Lycoming College welcomes applications from prospective students regardless of age, sex, race, religion, financial resources, color, national or ethnic background.

## HIGH SCHOOL SENIORS

High school senior applicants for admission must complete the following steps:

- 1) Submit the completed Lycoming College Admission Application;
- 2) Submit the non-refundable \$25.00 Admission Application Fee;
- 3) Provide official transcripts of all high school, and postsecondary school studies (whether or not completed);
- 4) Submit official Scholastic Aptitude Test (SAT), or American College Test (ACT) or Prueba de Aptitud Academica (PAA) results;
- 5) Submit one (1) written evaluation form (the form is included as part of the admission application);
- 6) Submit one short (100-150 word) essay. The essay should address the applicant's educational objectives and career goals, and the manner in which an education at Lycoming College will assist in achieving these objectives and goals.

## TRANSFER APPLICANTS

Lycoming College considers applications from students who have attended other post-secondary educational institutions. These applicants must be in good academic standing and have earned a cumulative grade point average of at least 2.0 (on a 4 point scale) in transferable courses at the post-secondary institution(s) attended.

Transfer applicants must complete each of the following steps:

- 1) Complete the admission process outlined earlier for high school seniors;
- 2) Provide official transcripts of all high school, and postsecondary school studies (whether or not completed);

- 3) Arrange for the Admission with Advanced Standing (AWAS) form to be completed by the Student Affairs Office at the last post-secondary school attended.

Transfer applicants who have completed a minimum of one full year (24 semester or 36 quarter hours) of coursework which is transferable to the College are not required to submit SAT, PAA or ACT results.

Applicants may transfer up to 64 semester credits of lower division coursework, and up to 32 semester credits of upper division coursework for a total of 96 credits. Students must complete the final 32 credits of their degree program at Lycoming College.

Additional information regarding the transfer of college credit appears on page 12.

## ADMISSION OF OLDER-THAN-AVERAGE STUDENTS

Lycoming College recognizes the unique contributions of older-than-average students to the college classroom setting. The College also recognizes that older-than-average candidates for admission may possess non-traditional educational backgrounds, and that the traditional criteria utilized during the admission evaluation process may not always be appropriate. To that end, the submission of SAT or ACT results are not required for applicants who are at least 25 years of age.

Older-than-average applicants must demonstrate through the admission process that their combined work experience and formal education predicts a reasonable opportunity for success at Lycoming College. Older-than-average applicants must satisfy the following application requirements to qualify for admission consideration:

- 1) Submit a completed Admission Application (with fee);
- 2) Provide official transcripts of all secondary and post-secondary studies (whether or not completed);
- 3) Submit official proof of secondary school graduation, or completion of the GED;

- 4) Submit a total of two recommendations from employers and/or former secondary or post-secondary instructors;
- 5) Applicants who have attended a post-secondary institution are required to submit a completed Admission with Advanced Standing (AWAS) form;
- 6) Participate in an Admission Interview.

## INTERNATIONAL APPLICANTS

Prospective students who are neither citizens nor permanent residents of the United States are welcome to apply for admission.

International applicants must complete each of the following steps:

- 1) Submit the completed Lycoming College Admission Application;
- 2) Submit the completed Lycoming College Supplemental Application for International Students;
- 3) Submit the non-refundable \$25.00 Admission Application Fee;
- 4) Provide certified true copies of all secondary (and when applicable, post-secondary) transcripts, mark sheets, diplomas and certificates in the original languages, as well as in English (when the originals are not in English). Translations of non-English materials must be certified as true and correct;
- 5) Submit one (1) written evaluation (the form is included as part of the admission application);
- 6) Submit one short (100-150 word) essay. The essay should address the applicant's educational objectives and career goals, and the manner in which an education at Lycoming College will assist in achieving these objectives and goals;
- 7) Arrange for the Admission with Advanced Standing form (AWAS) to be completed by the Student Affairs Office at the last post-secondary school attended (if transferring from a post-secondary school within the United States);

- 8) Please note that the minimum amount required for each academic year of study (September through April) at Lycoming College is U.S. \$14,000. Summer living expenses (May through August) average an additional U.S. \$2,000, and are not included in \$14,000 amount;
- 9) Provide proof of the ability to read, write and speak English at the college level as evidenced by at TOEFL score of at least 550, or comparable evidence of English language fluency;
- 10) International students who are currently studying in the United States must be "in-status" with the United States Department of Justice, Immigration and Naturalization Service. They must also be eligible to transfer to Lycoming College.

#### **STUDENTS WITH LEARNING DIFFERENCES (Sometimes Referred To As Learning Disabilities)**

Each year, Lycoming College receives a number of applications from prospective students who have voluntarily identified themselves as individuals with learning differences.

These prospective applicants complete the appropriate admission application procedure outlined earlier (for high school seniors, college transfers, or international students), *except that* alternate format SAT or ACT results may be substituted for timed test results.

Additional materials in support of the admission application are required. These supplemental materials should include:

- 1) Recent Wechsler Intelligence Scale for Children-Revised (WISC-R) results, or Recent Wechsler Adult Intelligence Scale-Revised (WAIS-R) results;
- 2) Current educational evaluation reports and Individualized Education Plans (IEPs) when applicable.
- 3) Letters of recommendation from special education instructors and/or counselors which address the

compensatory strategies required to help insure the applicant's success in college.

Finally, applicants are encouraged to meet with the college counselor to discuss services available for students with learning differences at the College.

#### **ADMISSION APPLICATION FILING PERIOD**

Applications for the *Fall Semester* will be accepted from *June 1st* of the preceding year through *March 30th* of the year in which studies are to begin. Applications for the *Spring Semester* are accepted from the preceding *May 1st* through *October 31st*. A limited number of applications may be considered on a space-available basis up to one month prior to the beginning of the semester.

Applications, when complete, are reviewed and evaluated on a rolling basis. Generally, applicants are notified, in writing, regarding the outcome of their applications within three weeks following the receipt of all required materials.

#### **ADMISSION DECISION CRITERIA**

Admission to Lycoming College is competitive. Applicants are evaluated on the basis of their academic preparation, talents, and interests, as well as the College's capacity to help them achieve their educational objectives and career goals.

Successful candidates for admission have typically completed a college preparatory program in high school which includes four years of English, three years of math, two years of foreign language, two years of natural or physical science, three years of social science, and two years of academic electives.

In addition, successful admission candidates generally place in the top two-fifths of their high school graduating class, and have better than average SAT, ACT, or PAA scores, as well as a better than average high school grade point average.

From time to time, supplemental materials, as well as a personal interview may be required prior to the determination of admissibility.

#### **CONFIRMATION OF INTENT TO ENROLL AT LYCOMING**

Admitted applicants must confirm their intent to enroll for the *Fall Semester* no later than the preceding *May 1st*, or by *November 1st* for the following *Spring Semester* by submitting the appropriate deposit. Non-resident, commuting students are required to submit a *\$100 Tuition Deposit*. Resident students are required to submit the *\$100 Tuition Deposit*, as well as a *\$100 Room Reservation Fee*. Admitted international applicants are required to submit all applicable deposits prior to the issuance of the I-20 form.

Deposits are *non-refundable*, after *May 1st* for the following Fall Semester, and *November 1st* for the following Spring Semester.

#### **WITHDRAWAL OF ADMISSION OFFERS**

Lycoming College reserves the right to withdraw offers of admission when:

- 1) information requested as part of the admission application process is not provided by applicants, or misrepresentation of fact to the College by applicants occur during the application process;
- 2) the conduct of applicants is not in keeping with the ethical or moral standards as set forth in the Lycoming College Catalog or the Lycoming College Student Handbook.

## **ADMISSIONS OFFICE LOCATION AND HOURS**

Prospective students and their families are encouraged to visit the campus for a student-conducted tour and an interview with an admissions counselor, who will provide additional information about the College and answer questions.

The Admissions Office is located on Washington Blvd. and College Lane. For an appointment, telephone 1-800-345-3920 or (717) 321-4026, or write Office of Admissions, Lycoming College, Williamsport, PA 17701. Office hours are:

Weekdays — September through April  
8 a.m. to 4:30 p.m.

— May through August  
8 a.m. to 4 p.m.

Saturdays — September through April  
9 a.m. to 12 noon

— May through August  
No Saturday hours



*Rich Hall, women's residence dormitory*

# Financial Matters

## EXPENSES FOR THE ACADEMIC YEAR 1989-90

The following expenses are effective for the regular fall and spring semesters. The College reserves the right to adjust fees at any time. The fees for each semester are payable not later than the second day of classes for the semester.

Fees	Per Semester	Per Year
Comprehensive .....	\$4,640	\$ 9,280
Board and Room Rent .....	1,700	3,400
Total .....	\$6,340	\$12,680

### One-Time Student Fees

Application Fee .....	\$ 25
Admissions Deposit .....	100
Contingency Deposit .....	100
Room Reservation Deposit .....	100

### Part-Time Student Fees

Application Fee .....	\$ 25
Each Unit Course .....	\$1,160

### Additional Charges

Applied Music Fee (half-hour per week per semester) .....	\$150
Cap and Gown Rental .....	prevailing cost
Laboratory Fee per Unit Course .....	5 to 50
Reregistration Fee .....	25
Parking Permit (for the academic year) ..	10 to 15
Parking Permit with Reserved Space (for the academic year) .....	15 to 35
Practice Teaching Fee (Payable in Junior Year) .....	\$290
R.O.T.C. Uniform Deposit (Payable at Bucknell University) .....	75
Transcript Fee .....	3
Health Services Fee .....	\$100

The comprehensive fee covers the regular course load of three to four courses each semester. Resident students must board at the College unless, for extraordinary reasons, authorization is extended for other eating arrangements. If a double room is used as a single room, there is an additional charge of \$320 per semester. The estimated cost for books and supplies is up to \$300 per year, depending on the course of study. Special session (May term and summer term) charges for tuition, room, and board are established during the fall semester.

## ENTRY FEES AND DEPOSITS

**Application Fee** — All students for admission must submit a \$25 application fee. This charge defrays the cost of processing the application and is nonrefundable.

**Admission Deposit** — After students have been notified of their admission to Lycoming, they are required to make a \$100 admissions deposit to confirm their intention to matriculate. Students seeking residence must submit an additional \$100 room-reservation deposit. All deposits are applied to the general charges for the first semester of attendance. After May 1, deposits are nonrefundable.

**Contingency Deposit** — A contingency deposit of \$100 is required of all full-time students as a guarantee for payment of damage to or loss of College property, for library and parking fines, or similar penalties imposed by the College. The deposit is collected along with other charges for the initial semester. The balance of this deposit is refunded after all debts to the College have been paid, either upon graduation or upon written request submitted to the Registrar two weeks prior to voluntary permanent termination of enrollment at Lycoming College.

## PARTIAL PAYMENTS

For the convenience of those who find it impossible to follow the regular schedule of payments, arrangements may be made with the College Treasurer for the monthly payment of College fees through various educational plans. Additional information concerning partial payments may be obtained from the Treasurer or Director of Admissions.

## REFUNDS FOR STUDENTS WHO WITHDRAW

Refunds of tuition and board are made to students who voluntarily and officially withdraw from the College while in good standing according to the following schedule for the fall and spring semesters and the comparable period for the May and summer terms:

Period of Withdrawal	Refund %	Charge %
During the first week of the semester .....	80	20
During the second and third week .....	60	40
During the fourth and fifth week .....	40	60
During the sixth and seventh week .....	20	80
After seven weeks .....	0	100

No refunds are given to students who are suspended for disciplinary reasons.

## NON-PAYMENT OF FEES PENALTY

Students will not be registered for courses in a new semester if their accounts for previous attendance have not been settled. Diplomas, transcripts, and certifications of withdrawals in good standing are issued only when a satisfactory settlement of all financial obligations has been made in the Business Office. Final grades may also be held in some cases.

## FINANCIAL AID

### POLICY AND PROCEDURES

The dominant factor in determining the amount of financial aid awarded to individual students is the establishment of need. Scholarships may be awarded on the basis of financial need and academic ability, while grants are provided on the basis of financial need. Long-term, low-cost educational loans are available from federal and state sources to most students who can demonstrate need. Part-time employment is available to students.

To apply for financial assistance, obtain Lycoming's Financial Aid/Scholarship Application (FASA) from the Financial Aid Office, the CSS Financial Aid Form (FAF), and if appropriate, your State Grant Application from the secondary school Guidance Office or Lycoming's Financial Aid Office. Submit the FASA to Lycoming and the other completed applications to the appropriate processors as early as possible after January 1.

Renewal applications are required annually. For additional information, including deadlines, see the Financial Aid Brochure.

## SCHOLARSHIPS AND GRANTS

**Admissions Recognition Scholarship.** Contact an Admissions Counselor for information.

**Founders Scholarships** of \$5,000 are awarded to full-time Lycoming undergraduate students who rank in the top fifth of their high school graduating class and have combined SAT scores of at least 1200. Founders Scholarships are renewable for up to three additional years of continuous enrollment provided the student maintains a cumulative grade point average of 3.25.

**Trustees Scholarship** is a full tuition scholarship. Recipients must be a high school graduate with a minimum high school GPA of 3.5, rank in the top 20% of their class and have SATs of at least 1350. Renewal requires a minimum 3.35 GPA and satisfactory academic progress.

**Valedictorian/Salutatorian Scholarship** is a \$3,600 award honoring graduates of private and public secondary schools who rank either first or second in their graduating class as certified by their guidance counselor. These awards are based upon academic achievement and are not contingent upon demonstrated financial need. Renewal cum is 3.25.

**Recognition Scholarships** for \$1,000 to \$3,000 per year are awarded to Freshmen who have superior academic qualifications and who have filed the FAF but did not demonstrate financial need as determined by the College Scholarship Service and were not eligible for another Lycoming Scholarship program. This scholarship is renewable if the recipient maintains a 3.00 cumulative average.

**Directors' Scholarships** of \$400 to full tuition, depending upon financial need, are awarded to students in the top fifth of their secondary school class with CEEB scores of 1100 or more. Renewal cum is 3.00.

**Lycoming Grant-in-Aid** awards of \$400 to full tuition, depending upon financial need, are made to full-time

students who do not qualify for scholarships and who have demonstrated financial need and the prospect of contributing positively to the College community. Renewal requires continued financial need and satisfactory citizenship standards.

**Ministerial Grants** are awarded to dependent children of United Methodist ministers and ordained ministers of other denominations. The grant amounts to one-third of tuition for children of United Methodist Ministers in the Central Pennsylvania Annual Conference and one-fourth of tuition for all others. If a student completes the FAF, this grant will be part of the total aid award.

**Minority Scholarship** is a tuition award of up to \$3,000 which is available to ethnic minority high school graduates with a minimum high school GPA of 3.25, rank in the top 30% of their class and have SATs of 900 or better. Recipients must live on campus and participate in 40 hours of supervised service to the college during each award year. Renewal requires a minimum 3.0 GPA and making satisfactory academic progress.

**Pre-Ministerial Student Grants** of one-fourth of tuition are awarded to students preparing for the Christian ministry who are enrolled full time and demonstrate financial need. Students must complete the pre-ministerial application available through the Financial Aid Office.

**Presidential Fellowships in Music** are awarded each year to candidates nominated by the Department of Music. Auditions and interviews are conducted annually by the Department. A tuition stipend of \$250 is awarded for each semester the student serves as a Fellow. The recipients are expected to fulfill responsibilities assigned each semester by the Department with the primary responsibility being musical performance. To apply, contact the Chairman, Department of Music, Lycoming College.

**Two-in-Family Grants** are awarded to each member of a family attending Lycoming College on a full-time basis at the same time. The amount is 10% of tuition, room, and/or board paid. Each

member must be enrolled full time and not eligible for any other financial aid program of the College. If a student is eligible for other Lycoming aid, the student would receive whichever is greater.

**Applied Music Grant** was established anonymously to be used to offset music fees for selected students taking advanced study in piano. Selection of recipients will be based upon talent and potential in piano.

**Art and Music Scholarship** of \$1,500 is available to each new, selected student. It is awarded on the basis of juried competition on the 1st and 2nd Saturdays in April and is open to high school juniors and seniors and to freshman and sophomore college transfer students. Recipient must have SATs of at least 850 and rank in the top 40% of their senior class. Renewal requires 2.0 cum GPA plus continued recommendation of Lycoming departmental faculty.

**Sculpture Scholarship** of \$1,500, but not to exceed need, is available for students seeking a BFA in Sculpture and who successfully complete a portfolio review. Students must also demonstrate financial need. Contact the Art Department.

**Two-Year Transfer Scholarships** of \$2,400 are awarded to the student transferring from each two year institution with the best academic record. Must have completed a two-year program or 64 credits and have at least a 3.25 cum GPA. On campus interview required. Renewable for one year if student maintains 3.0 cum GPA.

**United Methodist Scholarships** are awarded to full-time degree applicants who have a grade average of B or better, are active in Christian activities, are an active, full member of the Methodist Church, and have demonstrated financial need. The awards are normally \$500 per year and the funds are provided by the United Methodist Church. Annual application is required. The student must complete and file the FAF and the scholarship forms which are available in the Financial Aid Office.

**Wyoming Conference Scholarship** is granted by Lycoming for \$500 to a



student chosen by the Scholarship Committee of the Wyoming Conference. These are renewable for three additional years. Good academic performance and service to the church are the criteria for this award.

**Eph and Bess Baker Scholarship** for \$6,000 is available at \$1,500 per year for four years awarded annually to a full-time student who exhibits academic promise and has a permanent residence in Lycoming County. Preference will be given, but not limited, to students who demonstrate need for financial assistance to attend Lycoming College. Renewal will be contingent upon maintaining a cum of at least 3.0 on a 4.0 scale. Recipient is chosen by the Director of Financial Aid.

**Ronald Beemer Memorial Scholarship** of \$350 is periodically awarded.

**Mary Strong Clemens Scholarship** of \$250 for a student preparing for Christian ministry or for deaconess work or its equivalent in the United Methodist Church.

**Mabel L. Collins Scholarship** of \$250 is available for a student from Hepburn Township; otherwise, to any other worthy student.

**C. Luther Culler Memorial Scholarship** of \$450 for a student is awarded based on Scholarship.

**Dewitt-Bodine Scholarship** is awarded to the highest ranked student in the graduating class each year from Hughesville High School who attends Lycoming College. The recipient is designated by the Hughesville Guidance Counselor. The scholarship amount is \$2,200 and is credited at \$550 per year over four years of attendance at Lycoming. If the student is in a three-year program (such as Med-Tech), the award will be divided equally over the three-years' attendance at Lycoming.

**Clara Kramer Eaton Scholarship** is awarded to the highest ranked student in the graduating class each year from Line Mountain High school who attends Lycoming College. The recipient is designated by the high school's guidance office. The scholarship is \$400 per year for up to four years' attendance at Lycoming.

**Beryl Kline Glenn Scholarship** of \$300 is periodically awarded to a deserving student majoring in music.

**David Grove and Wife Scholarship** of \$200 is periodically awarded to a needy student studying faith and ministry.

**Robert I. Hamilton Grant** of \$600 is available. Mr. Hamilton was a resident of South Williamsport.

**Esther M. Heefner Scholarship** of \$1,650 is available to help needy and deserving students.

**Edward P. Heether Scholarship** is available to help needy and deserving students, who are in good academic standing.

**James A. Heether Scholarship** for \$500 is available based on financial need. Priority will be given to a chemistry major.

**George W. Huntley, Jr. Scholarship** for \$900 is available to help defray the tuition and expenses for the first year only of any graduate of Cameron County High School (formerly Emporium High School). The selection is made by the Superintendent of Schools, Cameron, PA.

**Amos Johnson Scholarship** of \$100 is available for the education of a ministerial student of limited means.

**John T. and Mary Louise Keliher Scholarship** of \$200 is available for a deserving student "from the area".

**Morgan V. Knapp Endowed Music Scholarship** is awarded in the ratio of 75% of the fund to financially needy students, in satisfactory academic standing, who are majoring in music or who are pursuing courses in vocal music, piano, or strings, in that priority order. Twenty-five percent of the fund is awarded as needed, on the recommendation of the Music Department Faculty, to students, who in their opinion should be encouraged to study privately in the areas of voice, piano, or strings, in that priority order.

**LAMCO Scholarship** (formerly the Grit) of up to \$2,250 is available for scholarship with the following selection priorities:

1. children and grandchildren of employees of The Grit;
2. graduates of high schools of the

city of Williamsport; and

3. graduates of high schools of Lycoming County.

**Doris Lennon Scholarship** of \$1,800 is available to help dedicated young students preparing for church work in need of financial assistance.

**The Lycoming County Scholarship** is an endowed scholarship which provides interest annually to be awarded to students whose permanent residence is in Lycoming County. Preference will be given to entering freshmen who demonstrate financial need. Recipients will be selected by the Director of Financial Aid.

**Eva Rupert McKelvy Memorial Scholarship** of \$100 is available to help a worthy Christian girl.

**Mary Housenick Miller Scholarship** is given to a Lycoming student majoring in History (preferably American History) with a preference to an individual who has attained at least sophomore status. The scholarship will continue until graduation subject to concurrence from the History Department. Selection preference will be given but not limited to deserving students who demonstrate financial need.

**Earl Nearhoof Memorial Scholarship** of \$800 is available to assist young students entering Christian work with preference given to students from the Warriors Mark and Tyrone, PA areas.

**Ada Remely Memorial Scholarship** is an award available to a currently enrolled female member of the Junior Class having completed 80 credit hours with at least a 3.0 cumulative average and who demonstrates financial need of at least the regular tuition rate. Applications are available in the Financial Aid Office in February and are due in March. The award is normally \$500 based on current earnings of the scholarship endowment.

**Mort Rauff Memorial Scholarship Fund** provides annual interest which is awarded to a deserving full-time student who is in good academic standing. Preference is given to but not limited to an individual who demonstrates financial need and is an active member of the Lycoming College swimming team.

**Jennie M. Rich Memorial Scholarship**



of \$450 is available for worthy and needy students preparing for the Christian ministry of deaconess or missionary work.

**Margaret Rich and Elmer B. Staats Endowed Scholarship** of up to \$1,000 is available to an academically talented student who intends to pursue a career in public service. Preference given, but not limited, to individuals who have demonstrated need.

**Rich Scholarship** is awarded periodically to an academically outstanding student from Central Pennsylvania. The award varies from \$200 to \$650. Preference is given to a resident of the Woolrich area and children of the employees of the Woolrich Company.

**Leonard H. Rothermel Fund** provides \$1,400 in grant to financially needy student(s) who are in satisfactory academic standing with primary preference given to Trevorton residents and secondary preference given to Line Mountain School District area students.

**Mary Landon Russell Applied Music Fund** was established in recognition of her outstanding service to Lycoming College by alumni and friends during a special Homecoming celebration in 1985. This endowed fund provides financial assistance to qualified, talented students who seek advanced training in music.

**J. Milton Skeath Memorial Scholarship** of \$250 is available for a psychology major.

**Samuel Willard Memorial Scholarships** are awarded to a junior or senior student at Lycoming who is in need of financial assistance to complete his/her degree. Preference is given to a Religion Major. The award varies between \$400 and \$700 depending upon available scholarship endowment income.

**H. Merrill Winner Memorial Scholarship** of \$400 is available periodically.

**Hiram and Elizabeth Wise Scholarship** of \$100 is available for a ministerial or missionary student who, because of present circumstances and promise of future usefulness shall, in the judgment of the President, be deemed worthy of the same.

**Dr. Paul E. Witmeyer Memorial Scholarship** of \$250 is available for a

student interested in education.

**Donald C. Wolfe Memorial Scholarship** of \$400 is available for a worthy ministerial student to be selected by the Trustees.

**Raymond A. and L. Marie Zimmerman Scholarship** of \$100 is available for the benefit of students preparing for the Christian ministry.

## FEDERAL AID

**Paul Douglas Teacher Scholarship** is available to residents of Pennsylvania who rank in the top 10 percent of their high school class and plan to enter the elementary or secondary teaching field. Scholarships are for up to \$5,000 and the student must sign an agreement to teach. More information is available from your high school guidance counselor or Lycoming's Financial Aid Office.

**PELL Grants** are awarded by the Federal government to eligible undergraduate students as determined by a standard Federal formula. The grants will range up to \$2,300 for an academic year and are based on financial need as determined by the Federal Government formula. Application can be made when submitting the Financial Aid Form (FAF), the PHEAA State Grant Application, or by separate federal application on forms which are available in secondary school guidance offices or the Financial Aid Office at Lycoming. For students who received their first Pell Grant award in the 1987-88 award year or thereafter, the duration of eligibility for a Pell Grant is limited to the full-time equivalent of 5 academic years of study if the student is enrolled in an undergraduate degree or certificate program of 4 years or less.

**Supplemental Education Opportunity Grants** are awarded to a limited number of undergraduate students who have exceptional need. Priority must be given to Pell Grant recipients. The award range is \$100 to \$4,000 per year. You need to file the FAF or the PHEAA Grant application to be considered for this award.

## STATE AID

**Pennsylvania Higher Education Assis-**

**tance Agency (PHEAA) Grants** are available for Pennsylvania residents meeting the residency requirements and financial requirements of the program. Awards range from \$100 to \$2,000 per year for up to four years. Direct application to Harrisburg on the PHEAA Grant application is required. The deadline for filing to receive consideration is normally May 1st.

**Scholars in Education Awards (SEA)** are offered by PHEAA to PA residents who plan to teach math or science in a Pennsylvania secondary school. Must rank in the top fifth of your high school class, achieve at least a 3.0 (B) average on a 4.0 scale in math or science courses in high school and college, and score at least 1000 on the SATs (math must be at least 550) or on ACT have at least 22 in English and 27 in math. Award is 50% of annual tuition. You must agree to teach math or science in a Pennsylvania secondary school. If you fail to keep the commitment the grant becomes a loan with interest. High school seniors should contact your guidance counselor. College students should contact Lycoming's Financial Aid Office.

Other State Aid may be available to assist you at Lycoming College. Massachusetts, Ohio, Delaware, Rhode Island, and Connecticut have programs which allow their residents to use state grants at Lycoming. Contact your secondary school guidance office for specific information and application forms.

## LOAN PROGRAMS

**Perkins Loan (National Direct Student Loan Program)** permits a total of \$9,000 to be borrowed by the undergraduate student at a rate not to exceed \$4,500 the first two years. Preference must be given to those who have exceptional need. Applicants must complete the FAF through the College Scholarship Service. The repayment period and the interest does not begin until six months after the student is graduated or ceases at least half-time enrollment. Loans bear interest at the rate of 5% simple interest. Repayment of the principal may extend over a ten year period with the exception that

the Program requires repayment of not less than \$30 per month.

**Stafford (formerly Guaranteed Student) Loan Program** allows students to borrow up to \$2,625 as a freshman or sophomore or up to \$4,000 as a junior or senior per academic level not to exceed \$17,250.

Currently, the Federal Government pays the interest while the student is enrolled at least half-time. The simple interest rate ranges from 7-10 percent depending upon the date you first obtained a loan. Repayment usually extends over a period of up to ten years and begins six months after leaving school. Applications and information are available from your bank or other leading institutions.

**PHEAA Alternative Loan** of up to \$10,000 is available to students attending a Pennsylvania school through PHEAA. Eligibility is based on your credit qualifications and those of your cosigner. For more information request the PHEAA Help Loan Brochure or contact PHEAA, 660 Boas Street, Harrisburg, PA 17102.

**PHEAA Nonsubsidized Stafford (GSL) Loan** may be available to students attending a Pennsylvania school. The interest rates are the same as on the Subsidized Stafford; however, the interest on the Nonsubsidized Stafford must be paid on a quarterly basis while the student is enrolled in school and during the six-month grace period following the in-school period. Students must not be eligible for a maximum subsidized Stafford and must not be packaged with SEOG, CWS, or Perkins Loan. The maximum loan amount is up to \$2,625 minus Stafford subsidized eligibility for freshman and sophomore standing and \$4,000 minus Stafford subsidized eligibility for junior and senior standing. Minimum loan amount is \$500.

**PLUS/SLS Loans** are meant to provide additional funds for educational expenses. The interest rate varies annually but will not exceed 12%. Parents of dependent undergraduate students or independent undergraduates may borrow up to \$4,000 per year to a total of \$20,000. Applications and information

are available from your bank or other lending institution.

**United Methodist Student Loans** are available on a very limited basis to students who are members of the United Methodist Church. The maximum amount which may be borrowed for an academic year is \$1,000 subject to availability of funds. Information and applications are available through the Financial Aid Office.

## EMPLOYMENT OPPORTUNITIES

**Federal College Work-Study Program (CWSP)** awards provide work opportunities on campus. The program is funded by Federal funds supplemented by Lycoming funds. Students generally earn \$500 to \$1,500 per academic year and are normally limited to five to twenty hours per week during periods of regular enrollment. The purpose of the program is to provide employment to students who are in need of assistance to attend college. Applicants must complete the FAF or PHEAA Grant Application and Lycoming's Financial Aid/Scholarship Application (FASA).

**Lycoming Campus Employment Program** opportunities are provided on campus to students enrolled full time who are not packaged with Federal Work-Study jobs. The earnings range up to \$1,500 per year. Applicants must have a work supervisor complete a job request form from the Financial Aid Office.

**Other Job Opportunities** are frequently available with local business firms or persons. Contact the Career Development Office of the College for information on these opportunities.

## OTHER AID SOURCES

**Williamsport Hospital Scholarship** provides assistance to sophomore, junior, or senior nursing students who have at least a 2.5 cum average. Students selected must agree to provide the Williamsport Hospital with a minimum of six months of service as an employee in the Nursing Department for each \$2,000 per year of award received. Awards of greater than \$2,000 per year require one year of service for each year of award received. If the student does not work for the

hospital, the award reverts to a loan.

**Non-College Aid Opportunities** often are available through family employers or labor unions, business firms, fraternal and religious organizations, and secondary schools. Contact your secondary school guidance office for information. Your parents should contact their employer and organizations of which they are members for information on any financial aid sources.

**Veterans and Dependents Benefits** are available for qualified veterans and children of deceased or disabled veterans. Application should be made to your nearest Veterans' Administration Office.

**Reserve Officers Training Corps (ROTC) Scholarships.** Students who participate in Army ROTC are eligible for three, two, or one-year ROTC Scholarships to finance tuition, books, laboratory fees, and other charges with the exception of room and board. ROTC students may also receive \$100 per month stipend during the academic year.

**Reserve Officers Training Corps (ROTC) Stipends.** Students who participate in the Army ROTC program receive \$100 per academic month of their junior and senior years. They also receive half of a second lieutenant's pay plus travel expenses for a six-week advanced summer camp between junior and senior years.

**Pennsylvania National Guard.** Students participating in this program may be eligible for scholarship, credit programs, educational bonus, or loan repayment. Contact a Guard unit in your area for more information.

**Tuition Exchange Grants.** Lycoming College is a member of both the Tuition Exchange Program and the CICU Tuition Exchange Program. These programs are for dependent students of employees at participating institutions of higher education. You should contact the Tuition Exchange Officer at your sponsor institution for information regarding sponsorship.

**Education Financing Plans.** The Business Office at Lycoming provides information about plans which enable parents to pay college expenses on a monthly basis through selected companies.

# The Campus

Nineteen buildings sit on Lycoming's 20-acre main campus. Most buildings have been constructed since 1950, even though Lycoming — one of America's 50 oldest colleges and universities — dates back to 1812. All buildings are easy to reach from anywhere on campus. A 12-acre athletic field and football stadium lie a few blocks north of the main campus.

Modern buildings include the eight residence halls, which contain clean and comfortable single and double rooms; the student union; and the physical education/recreation center. Up-to-date facilities include the library theatre, the planetarium, the computer center, an electronic-music studio, a photography laboratory, and an art gallery. The computer center opened in 1969; the art gallery and physical education center opened in 1980. An arts center was renovated and opened in 1983.

## RESIDENTIAL

**Asbury Hall (1962)** — Named in honor of Bishop Francis Asbury, the father of The United Methodist Church in America, who made the circuit through the upper Susquehanna District in 1812, the year Lycoming (then the Williamsport Academy) opened its doors.

**Crever Hall (1962)** — Honors Lycoming's founder and first financial agent, the Rev. Benjamin H. Crever, who helped persuade the Baltimore Conference to purchase the school from the Williamsport Town Council in 1848.

**East Hall (1962)** — Houses most of the chapters of Lycoming's national fraternities and other students. The self-contained fraternity units each contain rooms, a lounge, and a chapter room. All students share a large social area.

**Forrest Hall (1968)** — Honors Dr. and Mrs. Fletcher Bliss Forrest and Anna Forrest Burfiend '30, the parents and sister of Katherine Forrest Mathers '28, whose generosity established the memorial.

**Rich Hall (1948)** — Honors the Rich family of Woolrich, Pennsylvania. Houses the health service, campus security, mail room, and the Sara J.

Walter Lounge for commuting students. The Academic Resource Center opened in January, 1986, and is located in the North Lounge on the First Floor. It is manned by peer tutors and professional staff during specified hours on Sunday through Friday.

**Skeath Hall (1965)** — The largest residence hall. Honors the late J. Milton Skeath, professor of psychology and four-time Dean of the College from 1921 to 1967.

**Wesley Hall (1956)** — Honors John Wesley, the founder of Methodism.

**Williams Hall (1965)** — Honors Mary Ellen Whitehead Williams, mother of Joseph A. Williams, of St. Marys, Pennsylvania, whose bequest established the memorial.

## ACADEMIC

**Academic Center (1968)** — Probably the most architecturally impressive building on campus, the Center actually is composed of four buildings: the library, Wendle Hall, the Arena Theatre and laboratories, and the faculty office building.

**Library (1968):** An active instruction program acquaints students with academic library strategies and supports their specific research in each discipline studied. Students become familiar with traditional methods of research as well as new information technologies utilizing computerized CD-ROM and online searching. The collection includes more than 155,000 volumes, approximately 1000 periodical titles, and a strong reference section suitable to an undergraduate education. The library also serves as a partial depository for U.S. government publications.

### Other facilities in this wing:

**Art Gallery (1980):** Located in the northwest corner of the first floor of the library, the gallery contains exhibits year-round, including shows of student work.

**College Computer Center (1969):** Located in the lower level of the

library, the center houses a PRIME 9755 which replaced the DEC PDP11/70 in December 1987. The PRIME 9755 has three 315 and one 1475 megabyte disk drives and 15 megabytes of main memory.

**Computer Graphics Center (1986):** The computer graphics center provides the IBC Ensign Computer for students majoring in computer science and for those taking graphics courses. It has 32 ports for terminals and printers, 2 megabytes of memory, and two 85 megabyte disk drives.

**Nursing Skills Laboratory (1983):** Located in the lower level of the library, it is a replica of a modern hospital ward, complete with 10 simulated work stations, a nurses' station, and all the medical equipment used by nurses.

**Wendle Hall (1968):** Contains 21 classrooms, the psychology laboratories, a computer terminal laboratory with 20 terminals available for use at present with an expansion capability of 20 more, and spacious Pennington Lounge, an informal meeting place for students and faculty.

**Arena Theatre and Laboratories (1968):** The 204-seat thrust-stage theatre is one of the finest in the region. It includes projection facilities, scene and costume shops, a make-up room, and a multiple-use area known as the Down Stage, where one-act experimental plays are performed. The language, business, mathematics, and physics laboratories are situated on the upper floors. The Detwiler Planetarium is located on the ground floor.

**Faculty Office Building:** Contains faculty offices, seminar rooms, and a 735-seat lecture hall.

**Fine Arts Center (1923, renovated 1983):** Contains studios, sculpture foundry, woodshop, printmaking shop, classrooms, lecture hall, offices. In addition, the Career Development Office is located in this building.

**Photographic Laboratory (1984):** Located in the lower level of the Fine Arts Center, it contains all the mate-

rials and equipment of any commercial laboratory.

**Mass Communication Center (1987):** The focal point of the facility is a fully equipped, broadcast quality television studio and control room. The building also houses two editing rooms, a classroom, faculty offices and the student newspaper office. The center is located on the southeast corner of campus.

**Science Building (1989):** Scheduled to open in the spring of 1990, the \$8.3 million science facility will be one of the finest undergraduate science facilities in the East. The building will be three levels, totalling more than 63,000 square feet. It will contain new biology and chemistry laboratories, lecture and seminar rooms, a small science library and a greenhouse, as well as classrooms and faculty offices.

**Clarke Building (1939):** — Includes recital hall, music classrooms, practice studios, an electronic-music studio, faculty offices, two chapels, and the United Campus Ministry Center.

## ADMINISTRATION

**Drum House:** Built in 1857 as a rental property, the Admissions House is the oldest and smallest building on the campus. It was first occupied by a Presbyterian parson. Founded in 1812, the Williamsport Academy, predecessor to Lycoming College, was likewise Presbyterian until 1848 when the institution was purchased by the Methodists to become the Williamsport Dickinson Seminary.

The Admissions House was bought by the College in 1931, along with twenty-eight other dwellings and in 1940 became the President's home. John W. Long occupied it for the remainder of his tenure and D. Frederick Wertz lived in the house from 1955 until 1965 when the President's home was moved to 325 Grampian Boulevard. The building was then converted for use by the Fine Arts Department. In 1983, when a new Fine Arts facility was completed, the department was relocated and the house was vacant until 1987 when it was restored by college crafts-

men to its original Federalist design under the supervision of Carol Baker '60, kindly volunteered her services during the year-long reconstruction. The Admissions House is a gift of the W.F. Rich Family.

**John W. Long Hall (1951)** — Opened originally as the library, it now houses the administrative offices, including those for the president, dean, treasurer, registrar, admissions, alumni affairs, public relations, institutional advancement, career development, publications, and financial aid. It includes a reception area, central communications, and the printing and bulk mail office.

## RECREATION

**Physical Education and Recreation Center (1980)** — Includes the George R. Lamade Gymnasium, which contains

basketball and other courts; a six-lane swimming pool; all-purpose room; sauna and steam room; weight room; offices; classrooms, and Alumni Lounge.

**Wertz Student Center (1959)** — Contains the main and private dining rooms, Burchfield Lounge, a recreation area, game rooms, music room, theatre, cafe with stage, bookstore, post office, student organization offices, and FM radio station. Honors Bishop D. Frederick Wertz, president of Lycoming from 1955 to 1968.

## RELIGIOUS

**Clarke Building (1939)** — Lycoming's landmark, the building contains Clarke Chapel, St. John Neumann Chapel, the United Campus Ministry Center, and music department studios and offices.



# Academic Calendar: 1989-90

	Fall Semester	Spring semester
Bills are due .....	August 21	January 2
Orientation of new faculty.....	August 24	
Residence halls open 8:00 a.m. for freshmen		
Residence halls open .....	August 27	January 7
Faculty available for advising .....	August 28	
Classes begin first period .....	August 30	January 8
Processing of drop/add begins .....	August 30	January 8
Re-registration fee of \$25 applies after this date .....	September 5	January 12
Last day for drop/add .....	September 5	January 12
Last day to elect audit and satisfactory/unsatisfactory grades .....	September 5	January 12
Last day for submission of final grades for courses for which Incomplete grades were recorded in Spring, May, and summer terms .....	October 10	
Last day for submission of final grades for courses for which Incomplete grades were recorded in fall semester .....		February 16
Mid-semester deficiency reports for freshmen due in Registrar's Office at noon ....	October 17	February 23
Residence halls close at 9 p.m. for spring recess.....		February 23
Residence halls open at noon after spring recess.....		March 4
Classes resume first period after spring recess .....		March 5
Preregistration for students who have completed at least one semester .....	November 8-9-10	
Preregistration for sophomores and juniors .....		March 29, 30
Preregistration for freshmen .....	November 16-17-18	April 4-5
Last day to withdraw from courses .....	November 21	April 6
Residence halls close at 10 a.m. for Thanksgiving recess .....	November 22	
Residence halls open at noon after Thanksgiving .....	November 27	
Classes resume first period after Thanksgiving .....	November 28	
Final examinations begin.....	December 11	April 23
Semester ends at 5 p.m. ....	December 15	April 27
Residence halls close at 9 p.m. ....	December 15	April 27
	<b>May term</b>	<b>Summer term</b>
Residence halls open .....	May 6	June 3
Classes begin .....	May 7	June 4
Last day for drop/add .....	May 8	June 6
Last day to elect audit and satisfactory/unsatisfactory grades .....	May 8	June 6
Last day to withdraw from courses .....	May 25	June 29
Term ends .....	June 1	July 13
Residence halls close at 4 p.m. ....	June 1	July 13
<b>Special dates to remember:</b>		
Freshman convocation .....	August 29	
All College Picnic .....	September 2	
Labor Day (classes in session) .....	September 4	
Homecoming Weekend .....	October 6-7-8	
Long weekend (classes suspended) .....	October 13-14-15	
Admissions Open House .....	October 9	
Parents Weekend .....	October 27-28-29	
Admissions Open House .....	November 11	
Thanksgiving recess .....	November 21-26	
Spring recess .....	February 23-March 4	
Honors Day .....	April 10	
Good Friday (afternoon classes suspended) .....	April 13	
Baccalaureate .....	May 6	
Commencement .....	May 6	
Memorial Day (no classes) .....	May 28	
Independence Day (no classes) .....	July 4	

# Directory

## BOARD OF TRUSTEES

### Officers

Harold H. Shreckengast, Jr. ....	Chairman
Nathan W. Stuart, J.D. ....	Vice Chairman
John C. Lundy ....	Secretary
William L. Baker ....	Treasurer
W. Gibbs McKenney, LL.D., L.H.D. ....	Chairman Emeritus
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Paul Gilmore, Litt.D. ....	Williamsport
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### Trustees

#### Elected

*Term expires 1989*

1986 Harold D. Chapman ....	Williamsport
1986 Richard H. Confair ....	Williamsport
1980 Richard W. DeWald ....	Montoursville
1974 Daniel G. Fultz ....	Pittsford, NY
1970 John E. Person, Jr. ....	Williamsport
1983 Mary R. Schweikle, M.D. (Alumni Representative) ....	Montoursville
1972 Donald E. Shearer, M.D. ....	Montoursville
1983 Hon. Clinton W. Smith ....	Williamsport
1961 Nathan W. Stuart, J.D. ....	Williamsport
1971 Willis W. Willard, III, M.D. ....	Carlisle

#### Elected

*Term expires 1990*

1987 Leo Calistri '59 (Alumni Representative) ....	Fayetteville, NY
1987 Robert E. Hancox ....	Malvern
1987 K. Alan Himes ....	Williamsport
1987 Richard D. Mase ....	Blossburg
1978 Harold D. Hershberger, Jr. ....	Williamsport
1978 John C. Lundy ....	Williamsport
1984 D. Stephen Martz ....	Duncansville
1981 William Pickelner ....	Williamsport
1985 Robert L. Shangraw ....	Williamsport
1972 Harold H. Shreckengast, Jr. ....	Jenkitown

#### Elected

*Term expires 1991*

1979 David Y. Brouse ....	Montoursville
1988 Gerald Hawk '66 (Alumni Representative) ....	Franklin, MA
1982 Margaret D. L'heureux ....	Williamsport
1973 Robert G. Little, M.D. ....	Harrisburg
1988 David B. Lee '61 ....	State College
1964 W. Gibbs McKenney, LL.D., L.H.D. ....	Baltimore, MD
1958 Fred A. Pennington, LL.D. ....	Mechanicsburg
1988 Ann S. Pepperman ....	Williamsport
1988 Theodore Reich ....	Williamsport
1982 Marguerite G. Rich ....	Woolrich
1988 John C. Schultz ....	Williamsport
1988 Richard Stamm '76 ....	Philadelphia
1988 Jeanne Twigg '74 ....	Montoursville
1988 John M. Young ....	Williamsport

## ADMINISTRATIVE STAFF

JAMES E. DOUTHAT (1989)

President

*B.A., The College of William and Mary*

*M.Div., Duke University*

*Ed.D., Duke University*

SHIRLEY A. VAN MARTER (1979)

Dean of the College

*B.A., Mundelein College;*

*M.A., Northwestern University;*

*M.A., Ph.D., University of Chicago*

WILLIAM L. BAKER (1965)

Treasurer

*B.S., Lycoming College*

J. BARTON MEYER (1984)

Executive Director for College Advancement

*B.A., Ohio Northern University;*

*M.S., University of Dayton*

BRUCE ANDERSON (1988)

College Counselor

*B.A., Lehigh University;*

*M.A., West Georgia College*

DALE V. BOWER (1968)

Director of Planned Giving

*B.S., Lycoming College;*

*B.D., United Theological Seminary*

JACK C. BUCKLE (1957)

Dean Emeritus

*A.B., Juniata College;*

*M.S., Syracuse University*

WILLIAM E. BYHAM (1987)

Sports Information Director

*B.S., Bloomsburg University*

ROBERT CHECCA (1986)

Registrar

*B.A., M.S. SUNY at Plattsburgh*

JANE A. CUNNION (1988)

Assistant Director of Public Relations

*B.A., Shippensburg University*

ROBERT L. CURRY (1969)

Associate Director of Athletics

*A.B., Lycoming College*

RITA C. DETWILER (1984)

Director of Admissions

*A.B., Lycoming College*

WENDY FREEMAN (1989)

School Relations Associate/Minority Recruiter

*B.S., Portland State University*

FRANK L. GIRARDI (1984)

Director of Athletics

*B.S., West Chester State College*

LETTY GRAY (1988)

Financial Aid Associate

*B.S., Pennsylvania State University*

*M. Ed.—Bloomsburg University*

DANIEL J. HARSTOCK (1986)

Director of Academic Resource Center and

Coordinator of Advising

*B.A., The Pennsylvania State University;*

*M.A., Indiana University of Pennsylvania*

ALICE HEAPS (1986)

Senior School Relations Associate

*B.S., Shippensburg University*

THOMAS J. HENNINGER (1966)

Director of Computer Services

*B.S., Wake Forest College;*

*M.A., University of Kansas*

MARY HERRING (1978)

Senior Admissions Associate

*B.A., Albright College;*

*M.A., Bloomsburg University*

J. MARCO HUNSBERGER (1989)

Chaplain

*B.A., Mercer University*

*M.Div., United Theological Seminary*

BRUCE M. HURLBERT (1982)

Director of Library Services

*B.A., The Citadel;*

*M.S.L.S., Florida State University*

HAROLD H. HUTSON (1969)

President Emeritus

*B.S., LL.D., Wofford College;*

*B.D., Duke University;*

*Ph.D., University of Chicago;*

*L.H.D., Ohio Wesleyan University*

JOHN G. LAMADE (1983)

Senior Admissions Associate

*B.A., Susquehanna University*

JOHN C. LAMBERT (1988)

Roman Catholic Chaplain

FRANCESCA M. LEINWALL (1989)

Director of Student Activities

*B.A., Western Maryland College*

*M.Ed., Pennsylvania State University*

MARK N. LEVINE (1985)

Director of Public and Media Relations

*B.A., The American University;*

*M.S.J., Northwestern University*

CHRISTINA E. MacGILL (1985)

Director of Career Development

*A.B., Lycoming College*

*M.S., Bucknell University*



SAMUEL McKELVEY (1986)  
 Director of Safety and Security  
*B.S., Central Missouri State*

RALPH F. MILLER (1985)  
 Director of Administrative Services

WALTER D. NYMAN (1987)  
 Director of Grounds and Buildings  
*A.D., Williamsport Area Community College*

R. MICHAEL O'BRIEN (1987)  
 Dean of Student Services  
*A.B., University of Chattanooga*  
*B.D., Southern Methodist University*  
*S.T.M., Southern Methodist University*  
*Ed.D., University of Tennessee*

JULIANN T. PAWLAK (1979)  
 Senior Associate for Financial Aid  
*A.B., Lycoming College;*  
*M.A., Bucknell University*

JEFFREY L. RICHARDS (1982)  
 Controller and Assistant Treasurer  
*A.B., Lycoming College*

PHYLLIS J. SIEBER (1989)  
 Director of Residence Life  
*B.S., University of Delaware*  
*M.A., Trenton State College*

SANDRA WALKER (1988)  
 College Nurse  
*B.S.N., College Misericordia*  
*M.S., Pennsylvania State University*

DEBORAH E. WEAVER (1978)  
 Manager, Residence Halls Operations

CATHLEEN WILD (1977)  
 Assistant Instructional Services Librarian  
*B.A., The College of Wooster;*  
*M.S., Columbia University*

LOU ANN B. ZEIGLER (1986)  
 Senior Admissions Associate  
*B.A., Seton Hill College*

RALPH E. ZEIGLER, JR. (1980)  
 Director of Development for Annual Support  
*A.B., Lycoming College;*  
*M.A., The Pennsylvania State University*

GAIL M. ZIMMERMAN (1984)  
 Director of Prospect Research  
*B.S., SUNY at Cortland*

## FACULTY

### EMERITI

LEROY F. DERR  
 Professor Emeritus of Education  
*A.B., Ursinus College; M.A., Bucknell University;*  
*Ed.D., University of Pittsburgh*

ROBERT H. EWING  
 Professor Emeritus of History  
*A.B., College of Wooster; M.A., University*  
*of Michigan; HH.D., Lycoming College*

JOHN P. GRAHAM  
 Professor Emeritus of English  
*Ph.B., Dickinson College;*  
*M.Ed., The Pennsylvania State University*

HAROLD W. HAYDEN  
 Librarian Emeritus and Professor Emeritus  
 of Library Services  
*A.B., Nebraska State Teachers College; B.S., University*  
*of Illinois; M.A. in L.S., University of Michigan*

JOHN G. HOLLENBACK  
 Professor Emeritus of Business  
 Administration  
*B.S., M.B.A., University of Pennsylvania*

GEORGE W. HOWE  
 Professor Emeritus of Geology  
*A.B., M.S., Syracuse University;*  
*Ph.D., Cornell University*

JAMES K. HUMMER  
 Professor Emeritus of Chemistry  
*B.N.S., Tufts University;*  
*M.S., Middlebury College;*  
*Ph.D., University of North Carolina*

M. RAYMOND JAMISON  
 Assistant Professor Emeritus of Physics  
*B.S., Ursinus College; M.S., Bucknell University*

WALTER G. McIVER  
 Professor Emeritus of Music  
*Mus.B., Westminster Choir College; A.B., Bucknell*  
*University; M.A., New York University*

ROBERT W. RABOLD  
 Professor Emeritus of Economics  
*B.A., The Pennsylvania State University;*  
*M.A., Ph.D., University of Pittsburgh*

JOHN A. RADSPINNER  
 Professor Emeritus of Chemistry  
*B.S., University of Richmond;*  
*M.S., Virginia Polytechnic Institute;*  
*D.S., Carnegie Mellon Institute*

LOGAN A. RICHMOND

Professor Emeritus of Accounting  
*B.S., Lycoming College;*  
*M.B.A., New York University;*  
*C.P.A. (Pennsylvania)*

MARY LANDON RUSSELL

Associate Professor Emeritus of Music  
*Mus. B., Susquehanna University Conservatory of Music;*  
*M.A., The Pennsylvania State University*

LOUISE R. SCHAEFFER

Associate Professor Emeritus of Education  
*A.B., Lycoming College; M.A., Bucknell University;*  
*D.Ed., The Pennsylvania State University*

JAMES W. SHEAFFER

Associate Professor Emeritus of Music  
*B.S., Indiana University of Pennsylvania;*  
*M.S., University of Pennsylvania*

FRANCES K. SKEATH

Professor Emeritus of Mathematics  
*A.B., M.A., Bucknell University;*  
*D.Ed., The Pennsylvania State University*

JOHN A. STUART

Professor Emeritus of English  
*B.A., William Jewell College;*  
*M.A., Ph.D., Northwestern University*

HELEN B. WEIDMAN

Professor Emeritus of Political Science  
*A.B., M.A., Bucknell University;*  
*Ph.D., Syracuse University*

PROFESSORS

ROBERT B. ANGSTADT (1967)

Biology  
*B.S., Ursinus College;*  
*M.S., Ph.D., Cornell University*

ROBERT F. FALK (1970)

Theatre  
Marshal of the College  
*B.A., B.D., Drew University;*  
*M.A., Ph.D., Wayne State University*

ERNEST D. GIGLIO (1972)

Political Science  
*B.A., Queens College;*  
*M.A., SUNY at Albany;*  
*Ph.D., Syracuse University*

EDUARDO GUERRA (1960)

Religion  
*B.D., Southern Methodist University; S.T.M.,*  
*Ph.D., Union Theological Seminary*

JOHN G. HANCOCK (1967)

Psychology  
*B.S., M.S., Bucknell University;*  
*Ph.D., The Pennsylvania State University*

EMILY R. JENSEN (1969)

English  
*B.A., Jamestown College;*  
*M.A., University of Denver;*  
*Ph.D., The Pennsylvania State University*

ROBERT H. LARSON (1969)

History  
*B.A., The Citadel;*  
*M.A., Ph.D., University of Virginia*

ROGER W. OPDAHL (1963)

Economics  
*A.B., Hofstra University;*  
*M.A., Columbia University;*  
*D.Ed., The Pennsylvania State University*

JOHN F. PIPER, JR. (1969)

History  
*A.B., Lafayette College;*  
*B.D., Yale University;*  
*Ph.D., Duke University*

MICHAEL G. ROSKIN (1972)

Political Science  
*A.B., University of California at Berkeley;*  
*M.A., University of California at Los Angeles;*  
*Ph.D., The American University*

ROGER D. SHIPLEY (1967)

Art  
*B.A., Otterbein College;*  
*M.F.A., Cranbrook Academy of Art*

SHIRLEY A. VAN MARTER (1979)

English  
Dean of the College  
*B.A., Mundelein College;*  
*M.A., Northwestern University;*  
*M.A., Ph.D., University of Chicago*

STANLEY T. WILK (1973)

Anthropology  
*B.A., Hunter College;*  
*Ph.D., University of Pittsburgh*

*\*On Sabbatical Fall Semester 1989*  
*\*\*On Sabbatical Spring Semester 1990*  
*\*\*\*On Sabbatical Spring & Fall 1990*  
*\*\*\*\*On Leave*

ASSOCIATE PROFESSORS

JERRY D. ALLEN (1984)

Theatre  
*B.F.A., M.F.A., Utah State University*

SUSAN K. BEIDLER (1975)

Collection Management Services Librarian  
*B.A., University of Delaware;*  
*M.L.S., University of Pittsburgh*

HOWARD C. BERTHOLD, JR. (1976)  
 Psychology  
*B.A., Franklin and Marshall College;*  
*M.A., University of Iowa;*  
*Ph.D., The University of Massachusetts*

GARY M. BOERCKEL (1979)  
 Music  
*B.A., B.M., Oberlin College;*  
*M.M., Ohio University;*  
*D.M.A., University of Iowa*

JON R. BOGLE (1976)  
 Art  
*B.F.A., B.S., M.F.A., Tyler School of Art;*  
*Temple University*

CLARENCE W. BURCH (1962)  
 Physical Education  
*B.S., M.Ed., University of Pittsburgh*

JACK D. DIEHL, JR. (1971)  
 Biology  
*B.S., M.A., Sam Houston State University;*  
*M.S., Ph.D., University of Connecticut*

RICHARD R. ERICKSON (1973)  
 Astronomy and Physics  
*B.A., University of Minnesota;*  
*M.S., Ph.D., University of Chicago*

BERNARD P. FLAM (1963)\*\*\*\*  
 Spanish  
*A.B., New York University;*  
*M.A., Harvard University;*  
*Ph.D., University of Wisconsin*

DAVID A. FRANZ (1970)  
 Chemistry  
*Marshall of the College*  
*A.B., Princeton University;*  
*M.A.T., The Johns Hopkins University;*  
*Ph.D., University of Virginia*

EDWARD G. GABRIEL (1977)  
 Biology  
*B.A., M.A., Alfred University;*  
*M.S., Ph.D., The Ohio State University*

STEPHEN R. GRIFFITH (1970)  
 Philosophy  
*Director of Lycoming Scholars*  
*A.B., Cornell University;*  
*M.A., Ph.D., University of Pittsburgh*

DAVID K. HALEY (1980)  
 Mathematics  
*B.A., Acadia University;*  
*M.S., Ph.D., Queen's University;*  
*Habil., Universitat Mannheim*

RICHARD A. HUGHES (1970)  
 Religion  
*B.A., University of Indianapolis;*  
*S.T.B., Ph.D., Boston University*

BRUCE M. HURLBERT (1982)  
 Director of Library Services  
*B.A., The Citadel;*  
*M.S.L.S., Florida State University*

MOON H. JO (1975)  
 Sociology  
*B.A., Valparaiso University;*  
*M.A., Howard University;*  
*Ph.D., New York University*

ELDON F. KUHNS, II (1979)  
 Accounting  
*A.B., Lycoming College; M. Accounting,*  
*University of Oklahoma; C.P.A. (Pennsylvania)*

PAUL A. MacKENZIE (1970)  
 German  
*A.B., A.M., Ph.D., Boston University*

ROBERT J.B. MAPLES (1969)  
 French  
*A.B., University of Rochester;*  
*Ph.D., Yale University*

RICHARD J. MORRIS (1976)  
 History  
*B.A., Boston State College;*  
*M.A., Ohio University;*  
*Ph.D., New York University*

DORIS P. PARRISH (1983)  
 Nursing  
*B.S., SUNY at Plattsburgh;*  
*M.S., Russell Sage College;*  
*Ph.D., University of Texas at Austin*

DAVID J. RIFE (1970)  
 English  
*B.A., University of Florida;*  
*M.A., Ph.D., Southern Illinois University*

MICHAEL G. ROSKIN (1972)  
 Political Science  
*A.B., University of California at Berkeley;*  
*M.A., University of California at Los Angeles;*  
*Ph.D., The American University*

GENE D. SPRECHINI (1981)\*  
 Mathematics  
*B.S., Wilkes College;*  
*M.A., Ph.D., SUNY at Binghamton*

FRED M. THAYER, JR. (1976)  
 Music  
*A.B., Syracuse University;*  
*B.M., Ithaca College;*  
*M.M., SUNY at Binghamton;*  
*D.M.A., Cornell University*

H. BRUCE WEAVER (1974)  
 Business Administration  
*B.B.A., Stetson University;*  
*J.D., Vanderbilt University;*  
*M.B.A., Florida Technological University*

JOHN M. WHELAN, JR. (1971)  
Philosophy  
*B.A., University of Notre Dame;*  
*Ph.D., The University of Texas at Austin*

ROBERT A. ZACCARIA (1973)  
Biology  
*B.A., Bridgewater College;*  
*Ph.D., University of Virginia*

MELVIN C. ZIMMERMAN (1979)\*  
Biology  
*B.S., SUNY at Cortland;*  
*M.S., Ph.D., Miami University*

AMY GOLAHNY (1985)  
Art  
*B.A., Brandeis University;*  
*M.A., Williams College — Clark Art Institute;*  
*M.Phil., and Ph.D., Columbia University*

BAHRAM GOLSHAN (1989)  
Mathematical Science  
*B.S., Jundi Shapour University, Iran;*  
*M.S., Ph.D., Edinboro State University of Pennsylvania*

G. W. HAWKES (1989)  
English  
*B.A., University of Washington-Seattle;*  
*M.A., Ph.D., SUNY-Binghamton*

THOMAS J. HENNINGER (1966)  
Director of Computer Services; Mathematics  
*B.S., Wake Forest College;*  
*M.A., University of Kansas*

OWEN F. HERRING (1965)  
Philosophy  
*B.A., Wake Forest College*

JANET HURLBERT (1985)  
Instructional Services Librarian  
*B.A., M.A., University of Denver*

MARY LOU KASPUTIS  
Nursing  
*B.S., Villa Maria College;*  
*M.S., Case Western Reserve University*

JANE LAWRENCE (1986)  
Sociology  
*B.A., College of St. Catherine, University of Minnesota;*  
*M.S.W., Rutgers University*

MEHRDAD MADRESEHEE (1986)  
Economics  
*B.S., University of Tehran;*  
*M.S., National University of Iran;*  
*M.S., University of Idaho;*  
*Ph.D., Washington State University*

CHRISS McDONALD (1987)  
Chemistry  
*B.S., Manchester College;*  
*Ph.D., Miami University of Ohio*

CAROLE MOSES (1982)\*\*  
English  
*B.A., Adelphi University;*  
*M.A., The Pennsylvania State University;*  
*Ph.D., SUNY at Binghamton*

BRADLEY NASON (1983)  
Mass Communication  
*A.B., Lycoming College;*  
*M.A., The American University*

#### ASSISTANT PROFESSORS

PENELOPE AUSTIN (1988)  
English  
*A.B., University of Michigan;*  
*M.B., University of Missouri-Columbia*

BERNARD J. BALLEWEG (1985)  
Psychology  
*B.S., Colorado State University;*  
*M.A., Ph.D., University of Montana*

HENRY E. BERKHEIMER (1988)  
Chemistry  
*A.B., Dickinson College*  
*M.S., Bucknell University*  
*Ph.D., The Pennsylvania State University*

STEVEN BIDLAK (1988)  
English  
*B.A., Western Washington University;*  
*M.A., University of Oregon;*  
*Ph.D., University of Washington*

ANDRZEJ J. BUCKI (1986)  
Mathematics  
*B.S., Maria Curie-Skłodowska University;*  
*M.S., Ph.D. Maria Curie-Skłodowska University;*

JOHN H. CONRAD (1959)  
Education  
*B.S., Mansfield State College;*  
*M.A., New York University*

SANTUSHT S. DeSILVA (1983)  
Mathematics  
*B.Sc., University of Sri Lanka;*  
*M.A., Ph.D., University of Pittsburgh*

DAVID FISHER (1984)  
Physics  
*B.S., The Pennsylvania State University;*  
*M.S., Ph.D., University of Delaware*

KATHLEEN D. PAGANA (1982)

Nursing

*B.S.N., University of Maryland*

*M.S.N., University of Pennsylvania*

*Ph.D., University of Pennsylvania*

JUDITH A. POTTMEYER (1984)

Biology

*B.S., Clarion State College;*

*Ph.D., Washington State University*

EVELYN M. POWERS (1988)

Education

*B.A., James Madison University;*

*M.Ed., Ph.D., University of Virginia at  
Charlottesville*

KATHRYN M. RYAN (1981)\*\*\*

Psychology

*B.S., University of Illinois;*

*M.S., Ph.D., University of Pittsburgh*

MICHAEL R. SMITH (1989)

Mass Communication

*B.A., University of Maryland;*

*M.S., Shippensburg University*

ARTHUR STERNGOLD (1988)

Business

*B.A., Princeton University;*

*M.B.A., Northwestern University*

LARRY R. STRAUER (1973)

Sociology

*A.B., Lycoming College;*

*M.P.A., University of Arizona*

ROBERT E. VAN VOORST (1989)

Religion

*B.A., Hope College;*

*M.Div., Western Theological Seminary*

*S.T.M., Ph.D., Union Theological Seminary*

RICHARD WEIDA (1987)

Mathematics

*B.S., Muhlenberg College;*

*M.S., Ph.D., University of Delaware*

BUDD F. WHITEHILL (1957)

Physical Education

*B.S., Lock Haven University; M.Ed.,*

*The Pennsylvania State University*

RICHARD E. WIENECKE (1982)\*

Accounting

*A.B., Lycoming College;*

*M.S., Bucknell University*

*M.B.A., Long Island University;*

*C.P.A. (Pennsylvania and New York)*

FREDRIC M. WILD, JR. (1978)

English

*B.A., Emory University;*

*M.A., Ph.D., Ohio State University;*

*M.Div., Yale Divinity School*

JOHN WILLIS (1989)

Art

*B.A., The Evergreen State College;*

*M.F.A., The Rhode Island School of Design*

PEIYUAN YAN (1989)

Mathematical Science

*B.S., E. China Inst. of Tech.;*

*M.S., Ph.D., Pennsylvania State University*

## INSTRUCTORS

MICHELLE S. FICCA (1985)

Nursing

*B.S., Stroudsburg State University;*

*M.S., The Pennsylvania State University*

MARGARET GRAY-VICKREY (1986)\*\*\*

Nursing

*B.S.N., SUNY at Plattsburgh;*

*M.S., Northern Illinois University*

EDWARD HENNINGER (1988)

Business Administration

*B.S., Shippensburg University;*

*M.B.A., Shippensburg University*

DEBORAH J. HOLMES (1976)

Physical Education

*B.S., M.S., The Pennsylvania State University*

DIANE JANDA

Music

*B.A., University of Texas at Austin;*

*M.M., University of Cincinnati, College Conservatory  
of Music*

BARBARA MARTINI

Nursing

*B.S., M.S., Bloomsburg University*

TROY WOLFSKILL

Chemistry

*B.S., Albright College*

## LECTURERS & SPECIAL APPOINTMENTS

RONDA L. BIRD, R.D. (1986)

*B.A., Indiana University*

DON M. LARRABEE II, (1972)

Lecturer in Law

*A.B., Franklin and Marshall College;*

*LL.B., Fordham University*

GERARD M. McKEEGAN

Nursing

*B.S., Philadelphia College of Pharmacy  
and Science*

#### PART-TIME FACULTY

JOAN MOYER CLARK (1987)

Music and Theatre

MARGARET CRONIN

English

JAMES CROSSLEY

Accounting

*B.S., Lycoming College*

*C.P.A. (Pennsylvania)*

ROGER DAVIS (1984)

Mathematics

*B.S.Ed., Clarion State College*

*M.S.Ed., Bucknell University*

AUDREY GABRIEL

Nursing

R. TIM MARKS (1986)

Education

*B.S., M.S.Ed., Clarion State College*

*D.Ed., The Pennsylvania State University*

THOMAS M. SHIVETTS (1986)

Education

*B.S., Lycoming College*

*M.S.Ed., Bucknell University*

DALE K. WAGNER (1985)

Business Administration

*B.A., M.A., The Pennsylvania State University*

MARY WOLF (1985)

Political Science

*B.A., St. Mary's College*

*M.P.A., University of Michigan*

JENNIFER YEAGER (1984)

Foreign Language

*B.S.Ed., University of Alabama*

MARY L. RUSSELL (1936)

Music

*B.S., Susquehanna University Conservatory of Music*

*M.A., The Pennsylvania State University*

JUDITH A. WHITE

Voice

*B. Mus., Susquehanna University*

EDWIN E. ZDZINSKI (1987)

Violin

*B.S., SUNY at Fredonia*

*M.A., Columbia University Teachers College*

*Ed.D., Columbia University Teachers College*

#### ADJUNCT FACULTY & STAFF

BROOKE BARRIE (1984)

Sculpture

*Johnson Atelier Technical Institute of Sculpture*

JAMES WALTER HUFFMAN (1984)

Assistant Technical Director of Arena Theatre

*B.A., in Studio Art, B.A., in Theatre,*

*Bloomsburg University*

JON LASH (1984)

Sculpture

*Johnson Atelier Technical Institute of Sculpture*

ANDRZEJ PITYNSKI (1984)

Sculpture

*Johnson Atelier Technical Institute of Sculpture*

HERK VAN TONGEREN (1984)

Sculpture

*Johnson Atelier Technical Institute of Sculpture*

#### APPLIED MUSIC TEACHERS

DIANA L. BAILEY (1986)

Saxophone

*B.S., Susquehanna University*

G. LOU FEIST (1987)

Percussions

RICHARD J. LAKEY (1979)

Organ and Piano

*A.B., Westminster Choir College; M.A.,*

*Indiana University of Pennsylvania*

ALBERT NACINOVICH (1972)

Brass

*B.A., in Music Education, Mansfield University*

*M.S., in Music Education, Ithaca College*

#### MEDICAL STAFF

ROBERT S. YASUI, M.D.

College Surgeon

*M.D., Temple University*

## ATHLETICS STAFF

JANIS ARP ..... Head Field Hockey Coach  
Head Women/Men Swimming Coach  
JOHN BODNER ..... Assistant Basketball Coach  
CLARENCE BURCH ..... Head Men's Basketball Coach  
JAMES BURGET ..... Head Women/Men  
Cross Country Coach  
WILLIAM BYHAM ..... Sports Information Director  
ROBERT CURRY ..... Associate Athletic Director  
REES DANEKER ..... Assistant Basketball Coach  
CHERYL DEMPSEY ..... Head Volleyball Coach  
STEVE DEWAR ..... Assistant Football Coach  
MIKE FIAMINGO ..... Assistant Wrestling Coach  
CURTIS JOHNSON ..... Head Softball Coach  
ROBERT GEORGE ..... Assistant Football Coach  
FRANK GIRARDI ..... Athletic Director  
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DEBORAH HOLMES ..... Head Tennis Coach  
Intramurals Director  
BARBARA HORN ..... Secretary/Athletics  
MICHAEL HUDDOCK ..... Assistant Basketball Coach  
JOSEPH LUMBIS ..... Equipment Manager  
TERRY MANTLE ..... Assistant Football Coach  
JOSEPH G. MARK ..... Head Tennis Coach  
J. SCOTT MCNEILL ..... Head Soccer Coach  
DAN MUTHLER ..... Assistant Wrestling Coach  
JAMES ORR ..... Head Women's Basketball Coach  
MADGE PINKERTON ..... Secretary/Athletics  
DANIEL PETRA ..... Athletic Trainer  
BUDD WHITEHILL ..... Head Wrestling Coach  
STEVE WISER ..... Assistant Football Coach

## ADMINISTRATIVE ASSISTANTS

Robert E. Bay	Grounds Foreman
Trudy L. Beachem	Gift Records Specialist
Theresa M. Beatty	Faculty Secretary in Science
Nathalie Beck	Executive Secretary, Development
Patricia A. Belknap	Executive Secretary Student Services
Emily C. Biichle	Coordinator Facilities Scheduling/Purchasing
Margaret L. Bloom	SUB Desk Aide
Robert D. Bloom	Security Proctor
Helen J. Boe	Typist/Clerk Admissions
Marlene Brown	AV/ILL Library Assistant
Barbara Bowes	Admin. Assistant Bookstore
Marie B. Boyle	Secretary/Admin. Asst. Security

Brigitte C. Brahms .....Tech Asst./Secretary  
Admin Services  
Peter A. Buckle .....Security Proctor  
Barbara J. Carlin .....Executive Secretary, Admissions  
Diana L. Cleveland .....Coordinator of Academic  
Computer Services for Mathematical Sciences  
Richard L. Cowher .....Press Operator  
Elizabeth G. Cowles .....Career Development Secretary  
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Richard C. Dingle .....SUB Desk Aide  
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Gladys Engel .....Secretary, Theatre Department  
Lisa R. Engel .....Public Relations Assistant  
June L. Evans .....Secretary, Nursing Department  
Robert W. Faus .....Ass't. Press Operator &  
Ass't. Mailroom Clerk  
S. Jean Gair .....Secretary, Music and Art Department  
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John E. Gohrig .....Assistant to Dir. of Admin.  
Services (Mailroom)  
Diane Hassinger .....Executive Secretary to  
Dean of College  
Mary C. Hendricks .....Supervisor of Housekeeping  
Esther L. Henninger .....Data Entry Clerk  
Bernadine G. Hileman .....Office Services Coordinator  
Barbara E. Horn .....Secretary to Athletics Director  
David M. Kelchner .....Data & Records Manager  
Gladys E. Knauss .....SUB Desk Aide  
Diane M. Kuttentberg ..Coordinator of Computer Services  
for Mathematical Sciences  
Gale D. Laubacher .....Cashier/Bookkeeper  
Peggie A. LeFever .....Assistant to Director of  
Admin. Services  
Shirley D. Lloyd .....Relief Switchboard Operator  
Carol. A. Long .....Admin. Assistant,  
Alumni & Parent Relations  
Dorothy E. Maples .....Box Office Manager  
D. Maxine McCormick .....Recorder  
Glenn E. McCreary ..Art Historian & Gallery Technician  
Rebecca R. Miller .....Financial Aid Office Secretary  
Ellen Moon .....Executive Secretary to President  
Marilyn Mullings .....Faculty to Secretary  
Carol T. Murray .....Coordinator of Academic  
Computer Services  
Judith E. Noble .....Library Acquisitions Assistant  
Marion R. Nyman .....Bursar/Executive Secretary  
to Treasurer  
Rosalie Pfaff .....Switchboard Operator  
Deborah E. Phillips .....Data Entry Clerk,  
Admissions & Financial Aid  
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Constance C. Plankenhorn .....Secretary to the Registrar  
David W. Poeth .....Assistant to Director of  
Buildings and Grounds





## 1989-90 Alumni Association Executive Board

The Alumni Association of Lycoming College has a membership of nearly 11,000 men and women. It is governed by an executive board consisting of 24 members-at-large, elected through mail ballot by the membership of the association. The board also has members representing specific geographic areas, the senior class president, the student body president, and past presidents of the last graduating class the Student Association of Lycoming College. The association annually designates one alumni representative as a nominee for a three-year term on the College Board of Trustees. The Director of Alumni and Parent Relations directs the activities of the alumni office. The Alumni Association has the following purpose as stated in its constitution: "As an off-campus constituency, the association's purpose is to seek ways of maintaining an active and mutually beneficial relationship between the College and its alumni, utilizing their talents, resources and counsel to further the objective and program of Lycoming College."

All former students of Williamsport Dickinson Seminary and all former students who have successfully completed one year of study at Williamsport Dickinson Junior College or Lycoming College are considered members of the association.

Acting as the representative of alumni on the campus and working also with undergraduates, the alumni office is responsible for keeping alumni informed and interested in the programs, growth, and activities of the College through regular publications mailed to all alumni on record. Arrangements for Homecoming, class reunions, club meetings, and similar activities are coordinated through this office. Through the Lycoming College Fund, the alumni office is closely associated with the development program of the College. Communications to the alumni association should be addressed to the Office of Alumni and Parent Relations.

### 1989-90 ALUMNI ASSOCIATION EXECUTIVE BOARD

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#### *Term Expires October 1990*

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Richard H. Felix '56 — 1230 Pennsylvania Avenue, Williamsport, PA 17701  
Ronald A. Frick '83 — 724 Pennsylvania Avenue, Williamsport, PA 17701  
William S. Kieser '65 — R.D. #1, Box 245, Steam Valley Mt., Trout Run, PA 17771  
Everett W. Rubendall '37 — 308 E. Central Avenue, South Williamsport, PA 17701  
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Dorothy Ferrell Sandmeyer '43 & '63 — Arrowhead Circle, Picture Rocks, PA 17762  
Douglas P. Trump '76 — 49 Talmadge Avenue, Chatham, NJ 07928

#### *Term Expires October 1991*

- Cynthia Pennington Clippinger '66 — 16 Mumma Avenue, Mechanicsburg, PA 17055  
Mark A. GaNung '85 — 327 Brandon Avenue, Williamsport, PA 17701  
Mark A. Gibbon '83 — 1514 Faxon Parkway, Williamsport, PA 17701  
John G. Hollenback '47 — 721 Sixth Avenue, Williamsport, PA 17701  
Eleanor Layton Loomis '60 — R.D. #1, Box 439, Bohlayer Orch, Troy, PA 16947  
Carolyn-Kay Miller Lundy '63 — 501 Upland Road, Williamsport, PA 17701  
Otto L. Sonder, Jr. '46 — 52 West Street, Oneonta, NY 13820  
Jean R. Alpert Staiman '47 — 135 Grampian Boulevard, Williamsport, PA 17701

#### *Members of the Board*

##### *Serving a One-Year Term*

- Student Association of Lycoming College (SALC), President — Michael P. Holland — 27 Greendale Road, Cedar Grove, NJ 07009  
Senior Class President — Amanda L. Gates — 651 Vineyard Avenue, #204 Broadview Heights, OH 44147  
1988 Class President — Cynthia J. Smith — 312 Montgomery Avenue, Apt. C-6, Haverford Gables, Haverford, PA 19041  
Immediate Past President of SALC — Matthew J. Drakeley '88 — 615 Brumar Drive, Hatboro, PA 19040

*Area Alumni Representatives*

Kent T. Baldwin '64 — Greater Williamsport — 929 Grampian Blvd., Williamsport, PA 17701

Patrick J. Cerillo '77 — Northern New Jersey — 150 N. Finley Avenue, Basking Ridge, NJ 07920

Amy Gehron Chambers '70 — Pittsburgh — 1515 Buena Vista, Pittsburgh, PA 15212

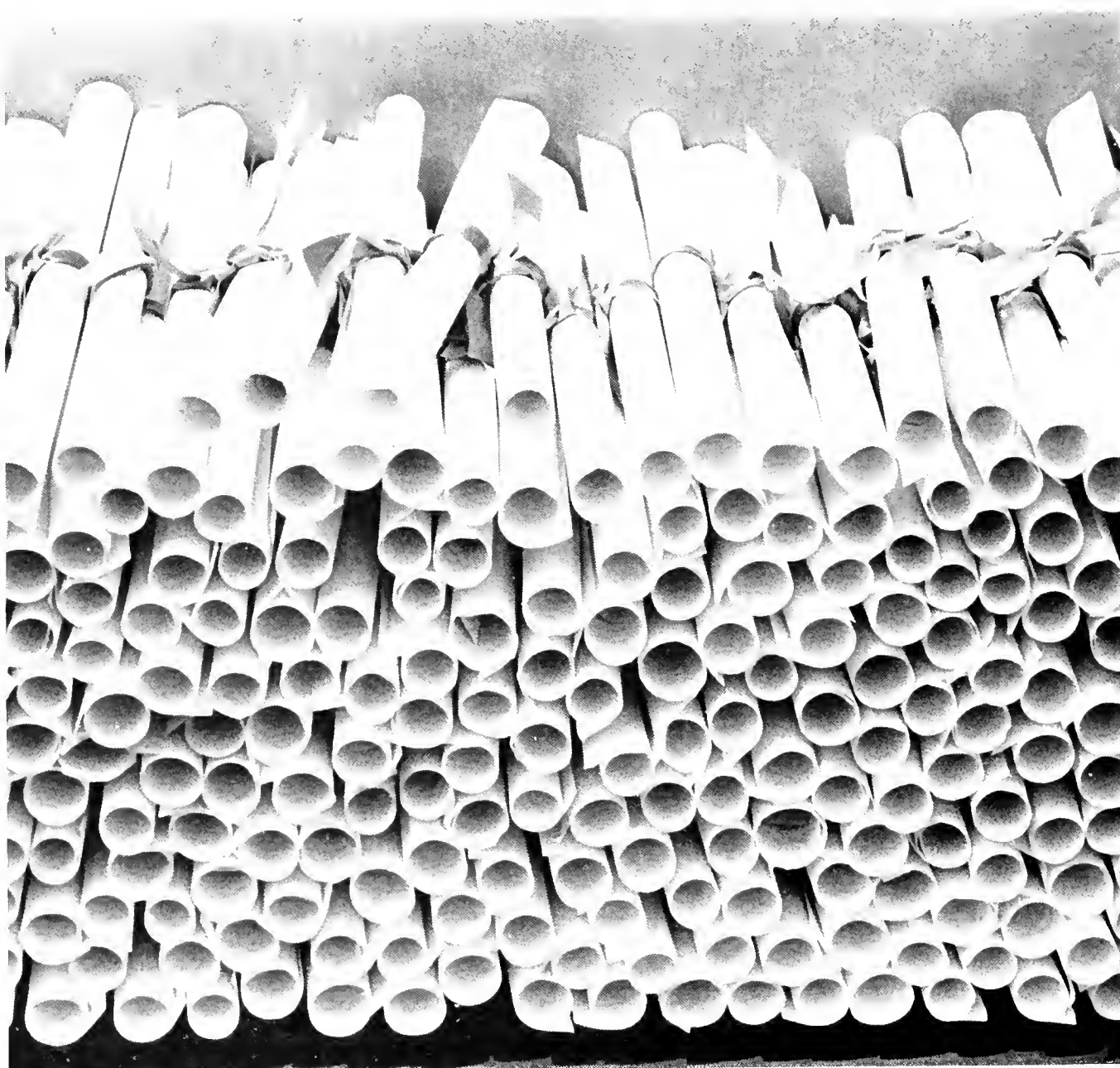
Ann Weitzel Fuhrman '79 — Southcentral Pennsylvania — 2214 Boxwood Lane, Mechanicsburg, PA 17055

Barry C. Hamilton '70 — Greater Pittsburgh — 7 Fenimore Lane, St. Davids, PA 19087

Robert & Marjorie Ferrell Jones '48 & '50 — Syracuse/Rochester Area — 298 Park Place, Caledonia, NY 14423

Charles J. Kocian '50 — Washington, DC — 2000 F St., NW #103, Washington, DC 20006

James G. Scott '70 — New England — 40½ C Oakland St., Newbury Port, MA 01950



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